FREE VOICES FROM THE DIGITAL FIELDS

A Social Research on Free Software in Latin America and the Caribbean

Lena Zúñiga

Centro Internacional de
Investigaciones para el Desarrollo
www.idrc.ca

Bellanet Internacional
Latin American & Caribbean Office

Publication Document
With the support of IDRC's ICT4D Americas
Lena Zúñiga and research team
August, 2006

Créditos:

Spanish Text Revision: Adriana Sánchez /rochwen@hotmail.com
Illustrations: Adián "El Bota" González / elbota76@gmail.com
Layout: Dynamo Interactiva / info@dynamocr.com
Editorial Coordination: José Pablo Molina / josepablo@sulabatsu.com
Translated from Spanish by Juan Ignacio Salom / line74@gmail.com
Rebeca Carvajal / carvajalrebeca@gmail.com

CONTENTS

ABOUT THIS PUBLICATION

Our Research on Free Software in Latin America and the Caribbean began in September 2003, sponsored by the International Development Research Center's (IDRC) America Information and Communication Technologies for Development Department (ICT4D). During the last two years (until May 2006) we were devoted to discovering, inhabiting and trying to understand the networks that are formed around Free Software in the region

This publication represents the conclusion of a social research process filled with experiences, data, distinct products and diverse voices, controversial, hopeful and sometimes contradictory. This material hopes to present our learning experiences and state some questions to trigger further studies. We have not included all the information compiled during the process, nor its sources. Nonetheless, all this information is available for its use and reproduction.

The text is organized as follows: first, we wanted to account for these two years of research experience, with a social perspective, in collaboration with counterparts from different countries in the region (with very different ideas and experiences).

Next, we summarize the most important findings and most provocative clues we came across during

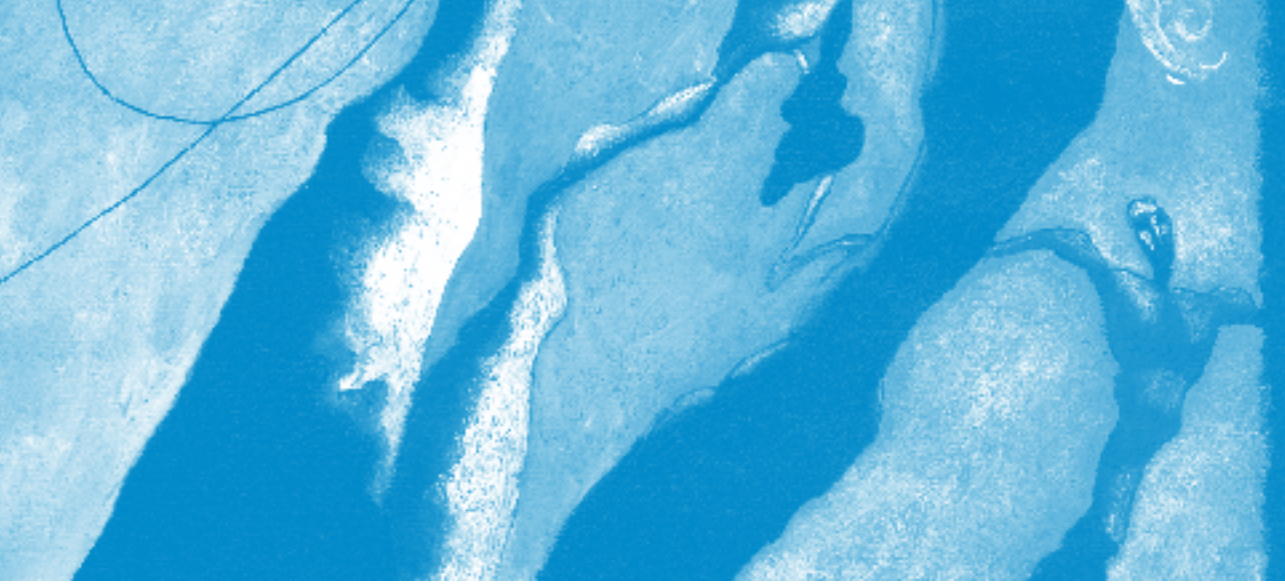
the process. This is a synthesis of the conclusions of the research, an interpretation supported by the compiled data and the opinions of those interviewed on what Free Software is and what it is transformed into, applied to Latin America and the Caribbean.

Finally, other authors reinforce this point of view from their own experience, after reading the Research's Final Report. Stephane Couture, from the University of Quebec at Montreal, presents a case study on the UTUTO project. Beatriz Busaniche, from the Vía Libre Organization in Argentina, extends a critical view on the results and presents her own proposal. Diego Saravia, from the University of Salta in Argentina, discusses the key topics that, according to his criteria, are currently being discussed in the Free Software community. José Luis Chiquete from the Mexican Association of Free Software, comments on the situation of the community in his country. Mario Teza, from Projecto Software Livre Brazil, gives us his viewpoint...

This book is enclosed with a broad report on results, containing much more details on each of the aspects analyzed during the research, which are included in the attached CD. The CD also contains an Alfa-Redi Organization study on Legal Environments for Free Software in the region, a data analysis from the Gender variable, supported by some experiences in women's Free Software Groups, and a thorough PSL-Brazil community case study. We have also included an Annex file with the interviews, audio files and photographs compiled during the process.

For the inexperienced reader on the Free Software concept, we recommend first reading the conceptual exploration we did at the beginning of the research, a short and basic document available in digital format.

All results and material are published under a Creative Commons non-commercial, equal- sharing license. We hope that the data and material may be useful for building other interpretations and triggering new questions. If there is something to learn on the topic of Free Software, it's that innovation and knowledge are nurtured by common work, joint effort and the freedom of creating from personal experience.



Preface

THE ROLE OF THE COMMUNITY IN THE FREE SOFTWARE ECOSYSTEM

Mario Teza

Everybody gives what they receive
And then receives what they give
Nothing simpler
No other norm
Nothing is lost
Everything is transformed
a
Everything is Transformed - Jorge Drexler

The research of Free Software in Latin America and the Caribbean focuses on the main protagonist in the FS ecosystem: the community. Upon deciding to deepen the study around this almost amorphous figure, the investigation contributes to the improvement in understanding this phenomenon, which intrigues academics, great corporations and even the traditional media: Who is it? Why does it mobilize? Where is it going?

The role of the Community in the Free Software Ecosystem

The Free Software Ecosystem is under construction. In the future, it will deserve deeper studies. Today we are interested in underlining that in this huge and colorful mosaic made up by scientific investigation, private enterprises, governments, legislations and, ICT users in general, the Community has a fundamental role. The community researched in this publication congregates free software users and developers.

Free Software feeds itself on the synergy of all these entities, and others. To help understand this, let's imagine for a moment that the community is inexistent in this process. There would certainly be scientific research, but who would apply it: there would be private enterprises that live for/from Free Software but in a smaller amount; governments would have very few free solutions; the number of users, in general, would be minimum. Thanks to the Free Software Community the world has alternatives in the array of ICTs.

The benefits in sharing

Spanish Philosopher Javier Bustamante develops an interesting line of research attempts to elucidate on the phenomenon of the Free Software Community. He develops the idea of making duty and interest converge. He supports his vision based on:

- ·The Game Theory (J. Von Neuman, O. Morgenstern, 1944): human interaction model;
- ·The Rational School Theory (R.S.T.) (J. Harsanvi, 1976): parametrical and strategic environments;
- ·The Prisoner's Dilemma: How to justify collaboration (Amartya Sen, J. Elsten, D. Porfitt, D. Gauthier);
- ·The Elucidated Egotistic: The problem of sustainability (A.E. Ben Bela): the golf course and the *favela*;
- ·The idea that free software and hacker ethics could constitute a new ethical paradigm.

According to Bustamante, when the amount of interactions increases, the level of collaboration between strategies also grows: "In normal conditions, egotistic strategies are beneficial in short term, while collaborative structures become successful in the long run." It is necessary to have "critical volume" for a collaborative structure to flourish. Internet popularization and global access to the web have allowed free software to reach its present "critical volume".

Bustamante continues: "for a neutral observer it becomes impossible to distinguish a genuinely altruistic strategy from an egotistic collaboration. It is perfectly possible to find diverse points of balance where collaboration is not total and still the population remains stable. Collaborative strategies increase the possible arrival of new collaborators."

Finally, Bustamante indicates the behavior characteristics for a strategies success

:*Kindness:* never the first to betray.

Retaliation: betraying only if the opponent betrays.

Forgiveness: having a short term memory (an interaction).

Not being envious: not worrying about making more than the opponent, but minding overall value.

Clarity: opponents understand quickly that for gaining many points they must cooperate.

Strength: the strategy adapts well to an array of environments.

Stability: no strategy can invade an environment dominated by a collaborative strategy (TFT)

Viability: beginning with a small number of participants in a collaborative strategy (TFT), these, collaborating with each other, can control the milieu. [1]

The "Result" of sharing

In a recent study, (Taurian C., 2005) it wasproved how much it would cost to have a collaborative development supposing it was based in a traditional development model. The results are notable, and maybe explain why ICTs open more and more to the Free Software option. If philosophical reasons are still not attractive enough, competitive assets offered by this technological option are not only tempting but irresistible.

"The RedHat Linux 7.1 free distribution has more than 30 million code lines and would cost more than a billion dollars to develop, having to pay developers more than 8 thousand per year.

Debian GNU/Linux 2.2 free distribution has more than 55 million code lines and would cost 1900 million dollars destined to pay more than 14 thousand per year to developers.

MS-Windows 2000 has 35 million code lines.

Ms-Windows XP has 40 million code lines."[2]

Conclusion

Free Software is not synonymous of Costless Software. The research takes detail into this concept. For now, it's enough to consider that software codes must be free, shared.

At the time of this publication, the growth of the Mozilla Firefox free Internet browser will be big news in specialized sites. Every month, this browser catches a piece in the universe of users worldwide. A few years ago, Netscape, the company that owned the original code, lost the browser race to Microsoft. Before the Netscape code fell into oblivion of technology history, the company decided to make it available to the Free Software Community.

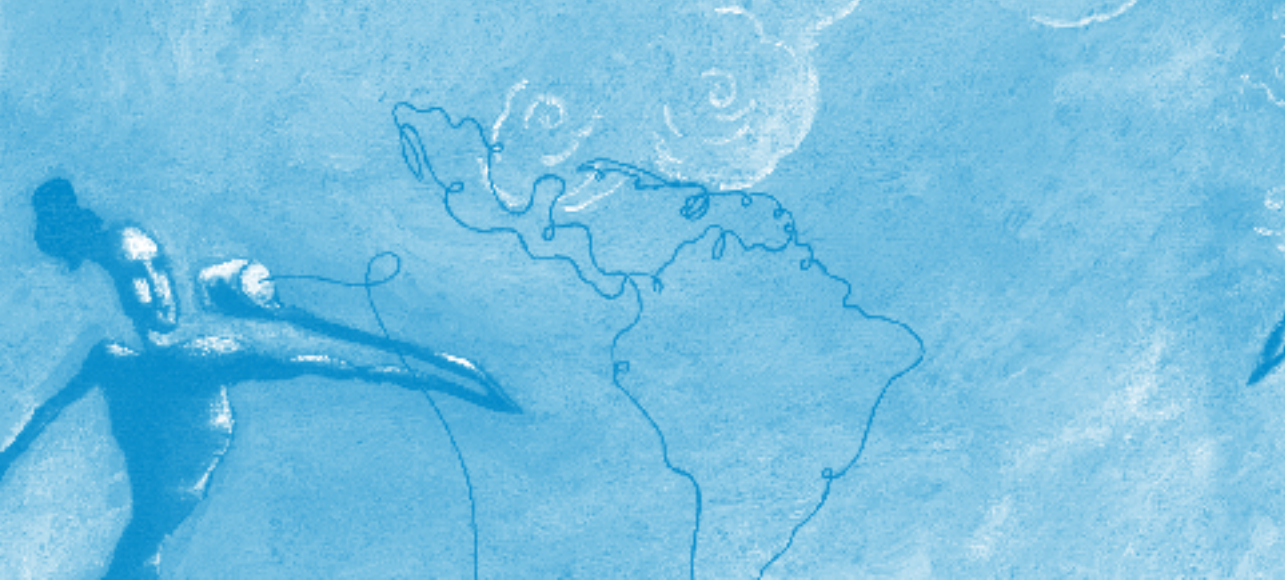
Here one must say:

"Everything that is not given is lost."[3]

1 Web Reference

2 Web Reference

3 Web Reference



ACKNOWLEDGMENTS

If everyone responsible for the results of this work were mentioned then it would risk this material becoming too long. Anyway, thank you:

To the Free Software Community in Latin America and the Caribbean, everyone who believes in Free Software as an intellectual challenge, an opportunity for the development of the region or a key to freedom of knowledge. Thanks for opening up your spaces, trusting us your data and for writing this investigation with your life and words.

To TIC-D Americas and the IDRC Administrative Team, for support that sometimes went beyond their own possibilities, for their flexibility and vision of future. Especially to our program's official Angélica Ospina, for being a fundamental part of the research through her conceptual and methodological guide, her good moods and the relationship of respect and trust that we were able to build.

Not just an acknowledgment but also an applause to the counterparts group in the region, the research group that participated in the methodological and instrumental conception and used their

networks and local mechanisms for capturing data. These people and organizations also gave us their friendship and put their spaces and work force to our disposal, giving us much more than what we could give in return. La Neta in México, especially Adolfo Duyanevich and Olinca Marino. Bayardo Rivas in Nicaragua. Funredes in Dominican Republic and Taran Rampersad somewhere in the Caribbean. Erick Iriarte at Alfa-Redi in the Andes Region, Erick Baez in Chile, the SOLAR team in Argentina, Fernando Maresca in Argentina and the Asociación Software Livre in Brazil, especially Denise Bandeira and Loimar Vianna.

To PSL-Mulheres, LinuxChix, Gnurias and all the women that gave us their time, facts and support. Thanks to project UTUTO and its members, as well as the PSL-Brazil leaders.

To everyone interviewed in every Latin American and some European countries, for their time and willingness to speak to our team.

To Verónica Xhardez, who completely committed to this work and many times put aside her personal interests to support the project with her work and dedication.

To Stephane Couture for his technical and conceptual support throughout the whole research and completion of deep insightful case studies, but especially for reminding me of utopias and infusing me confidence in the results. This acknowledgment extends to the workgroup at Koumbit and to LabCMO at UQAM in Montréal.

To the authors who contributed to this publication with their articles: Beatriz Busaniche, Diego Saravia, José Luis Chiquete and Mario Teza.

To León Coto, for developing the complementary project LaLibreta.net

To the administrative and logistics team at the Fundación Acceso in Costa Rica.

To the Bellanet Team in Canada, Nepal and Uganda, who participated directly or indirectly in constructing the global sense maintained throughout this research, especially Ricardo Gómez, who promoted this research, and Sarah Kerr who was a constant support to the project.

To the people who revised, diagramed, illustrated and translated this publication.

I want to specially thank the work team at the Sulá Batsú Cooperative in Costa Rica, who with all their heart worked hard and followed the whole development process of the research, especially Margarita Salas for her great contribution in the topic of Gender, José Pablo Molina for his invaluable last minute help, and Kemly Camacho for her great aptitude for conceiving, inspiring, negotiating, leading and defending this dream.

To everyone, thank you for understanding hope in unrestricted common knowledge.

FREE VOICES FROM THE DIGITAL FIELDS

A Social Research on Free Software in Latin America and the Caribbean

Lena Zúñiga

THE RESEARCH PROCESS: TWO YEARS OF LEARNED LESSONS

The Bellanet's Office for Latin America and the Caribbean creation was hosted within the Acceso Foundation in Costa Rica in 2003. Both organizations were attempting to create with this office an alliance based on common objectives and an extensive experience on Information and Communication Technologies, hoping to generate dialogue, to learn and improve competence in social organizations.

The interest for carrying out social research on the subject of Free Software originated from this overlapping between investigative social-participative experience, and the work with Free Software tools that Bellanet had been doing on a technical level with applications on development matters. Bellanet had also worked on "open standards" and "open content", which conformed one of its programming fields. Additionally, Kemly Camacho had been doing social research on the impact of the Internet on the social organizations in Central America.

The research project was presented to ICT4D Americas (from the Canadian International Research Center for Development), and after jointly enhancing the proposal, it was determined to execute the process. From ICT4D Americas the research team received not only the initial support, but also constant guidance and fundamental feedback during every stage of the process. The commitment went much further than just economical resources, where they contributed through their experience and joint vision on the region, which was a great asset to the work.

First approaches, motivations and objectives

Initially, many of the motivations and expectations were laid on the table. The topic was evidently very broad. One of the main interests was to understand how networks and communities organized around Free Software function, and how inclusion and exclusion relationships in these networks operate. On the other hand, we were interested in the interaction between these networks and social organizations and other development actors, and how Free Software could have an impact on the living conditions of the underprivileged groups of the region. Another orientation was towards understanding what would be the approach of diverse sectors on the Free Software topic and which could be the common agendas and necessary contributions to trigger the usage and development of Free Software.

Motivations came from working with different perspectives regarding what Information and Communication Technologies mean in terms of economical and social development in Latin America and the Caribbean, and

Specific Objectives of the Investigation

- •Study each of the sectors involved in the software movement of Latin America and the Caribbean- meaning, academic, government and private sectors, civil society, and user groups- their perspective on the subject and interrelations.
- •Analyze the situation of underprivileged groups and the gender perspective in the use and development of Free Software and the possibilities of profiting on its advantages to better their living conditions.
- •Study the phenomenon in the production, distribution, usage and adoption of Free Software in Latin America under the lens of economical, political, social and cultural conditions to determine the requirements for capacity and ability development.
- •Jointly construct, through research processes, common agendas that allow the strengthening of the Free Software community for development.

from the terms in which Latin American countries are stating their participation in the so called "Information Society". According to the initial approach, Free Software has characteristics that are identifiable in the ICT appropriation processes, and has a potential for generating changes not only in the technological tools being used, but in the way these are created and developed.

A viewpoint to explore was the role of women in Free Software networks, especially within the organized user, development, support and empowerment groups. The incorporation of Investigator Margarita Salas to the team was fundamental for directing the research in this sense and facilitating the obtainment of facts that did not overlook the difference in roles played by men and women not only in this subject or regarding ICT, but in everyday life and institutional dynamics of the countries in the region.

A brief identification of key actors and priority subjects showed a diverse scenario, within which we had to start delimiting. At the same time, the research team became involved in carrying out a virtual forum on Free Software in Public Administration, organized by the Institute for Connectivity in the Americas in November 2003, where much of the positions and controversies that were handled at the time between people and organizations involved with the subject became evident. This, paired with a conceptual exploration of the available bibliography on the subject, resulted in the Document "What

we know about Free Software for development in Latin America and the Caribbean" published in early 2004.

The Approach

One of the first challenges of the process was to establish a social approach for the research, because most of the material available at the time was focused on technical or economical aspects of the implementation and development of Free Software or Open Source Code. The social issue on network construction was indeed being considered in other regions, especially from quantitative methods. This research, which seeks to carry out an interactive social one, oriented towards the transformation of our reality, required practically building a whole new approach on the subject of Free Software.

Regarding the approach on the subject, two main considerations arose: one centered in the technical and human process from which Free Software is produced. The other one is the potential of Free Software for social and economic development. We tried to express the idea as follows:

The collaborative process from which Free Software is produced has a great potential for implementing in developing countries. The integral efforts, the community's asset protection, the user's freedom to contribute and profit not only from results but also from the processes, are elements of a model which could be complemented with the traditional ways of knowledge sharing and applying it to change people's living conditions and communities.

Besides, in developing countries, the subject of Free Software not only embraces discussions on its business model, but its security standards, and its usage possibilities or cost cutbacks. Although all these discussions are of great relevance, developing countries face subjects such as technological independence, transparency acts from public administration, good administration and optimization of development funds, local resources and raw material.

The research was not oriented to define the Free Software community as a totality, nor to understand what kind of software is being developed or used, or what the technical capabilities that exist in the region are. All of these aspects, undeniably relevant, are not contemplated within the realm of our study.

Likewise, the totality of Free Software networks couldn't be covered entirely, not only because of their broadness, but also because in some countries and localities the organizational degree is very scattered and the identification of networks is an effort that surpasses the project's possibilities.

Working with counterparts and sectors

To initiate the participative process, we decided to work with counterpart organizations to represent every sub-region. Counterparts, which had knowledge on the subject, were chosen, but these also needed to have social research experience, and capabilities

to engage their own networks in the process of obtaining data and feedback.

Choosing a sole counterpart per sub-region determined an important delimitation in the outreach of the process. After all, this is a choice in which variables such as opportunity, reliability, affinity in objectives and political identification have a direct consequence on the obtained data and on information that wouldn't otherwise be easy to access. The counterparts would, of course, have more possibilities of accessing networks which are close to them and would face their own limitations regarding countries, segments and relationships.

Another delimitation used from the beginning was in working with specific sectors. We decided to focus in sectors in order to group the initiatives and perspectives from different viewpoints, but also to formulate common agendas which pursued similar interests and were more concrete.

The integration of this work-group to establish relationships with different sectors also meant that the research team became involved in the networking, therefore, were incorporated into the work spaces of several organizations and started to contribute with limited but increasing experience. Counterparts were already incorporated into different spaces and represented different positions in the existing networks.

To form part of "the community" and identify with the ideas that motivate

Counterparts in the region:

MEXICO: La Neta. Adolfo Dunayevich.
CENTRAL AMERICA: Bayardo Rivas.
CARIBBEAN: Funredes. Jochen Plumeyer and Taran Rampersad.
ANDES REGION: Alfa-Redi. Erick Iriarte and Fernando Maresca.
SOUTH CONE: SOLAR. Verónica Xhardez.
BRAZIL: PSL-RS. Denise Bandeira.
BELLANET: Lena Zúñiga, Kemly Camacho, Margarita Salas, Sarah Kerr.
* The CD attached to this publication includes a brief profile on the counterparts.

Sectors:

ACADEMIC: Universities, educational systems, educative and formative initiatives.
GOVERNMENT: national, local, public institutions and government projects.
PRIVATE ENTERPRISE: small and moderate initiatives in different production activities.
SOCIAL ORGANIZATIONS: NGO's, Independent associations or collectives working for economic and social development.
USER AND DEVELOPER GROUPS: identified with Free Software or a particular project..

many people to become part of it also affected the approach the research team took on the subject matter and, more importantly, to the people, who in the end determine structures and state ideas. From the team's perspective, this closeness did not represent a disadvantage. Being close to the groups and networks, providing trust and clarity regarding the intentions of the research was one of its elements of success. "Extracting" data from people and groups was not in the interest of the project, but encouraging cooperation to what would lead to common results was.

Key Concepts

The concepts with which the process was initiated, were faced and repeatedly submitted to questioning during the development of the research. In the beginning, a bibliographic and general conceptual frame review was carried out following the document "What we know about Free Software for the development of Latin America and the Caribbean". Later on, it was necessary to revise our basic assumptions, and from the in-depth exploration of the topics, more resources were added to enrich the concepts. Other elements in the subjects which need much more conceptual development were also found.

The concept of **Free Software**, for example, represented an initial problem. During the process of revising what had been written in the region, it was observed that most of the authors or projects referred to themselves as part of the Free Software Community. In many occasions the difference between Free Software and Open Source Software was not clearly distinct, despite their important difference in concepts. It was decided to focus the research on the topic of Free Software and the networks that form around it, without excluding the participation of Open Source Software projects.

The concept of **Community** was also revised many times during the research's development. "Communities" were initially understood as open and changing networks that form around the projects and initiatives of Free Software, integrated by developers, users, activists, translators and people in general who are involved in some manner. At the time of designing the instruments, the actual existence of a "Community" of Free Software was reconsidered, as was the possibility of people not being necessarily identified with that term. In the end it was decided that it was important to use this key concept to define collaboration with a project, using the auto-definition of the majority of the actors, meaning that the actors themselves identify as part of a community. From the first analysis it became evident that there is not a specific **Free Software Community** in the region, but it is more a network of groups with different degrees of organization, which can have much or little collaboration and identification in their objectives and operating methods.

While analyzing how these networks worked and what their objectives were, mostly those related with changing the living conditions in their countries, the possibility of studying the Free Software phenomenon as one of the **new social movements** undergoing transformation in the region came into perspective. Some of the people in the research team and other people in contact considered that Free Software was beginning to constitute a social movement that aimed towards changing the conditions through which knowledge is accessed, used and shared.

After briefly exploring the definitions that have been awarded to new social movements and their characteristics, some interesting coincidences were found. Nonetheless, the foundations of this idea were not thoroughly explored. This topic might be a subject for another research, which of course should take into consideration the diversity in objectives and organizational figures coexisting within the networks of Free Software. Instead of entering this discussion, the interest of the project was oriented more towards the relationships that Free Software Groups have established with other social movements in the region, such as initiatives of joint economy and self-management, digital inclusion groups, feminist groups and art collectives.

The concept of **intellectual property** was thoroughly discussed by those we interviewed in the region, which made it necessary to review the thought on this term as well. Some organizations and actors reject the term "intellectual property", considering its use perpetuates and confirms the monopolistic model on knowledge, limiting liberty, access and the capacity to create and innovate. Part of the work of these groups has been to reformulate the idea that knowledge can be property of one person or business, to begin talking about free and common knowledge. Nevertheless, when referring to the set of norms and policies compelling to control and economical value of information, a great number of actors still make generic reference to intellectual property. On this matter, it was decided to use the term only in the context in which it was first used by those interviewed. Eliminating this concept form the research would be to assume a political position, which would need more reflection and research.

To have a clearer idea about the research's approach, spaces emerged for considering several topics that would be key to the orientation of the interviews and the analysis of the data, be it because of the topics' relation to the work or because of the lack of relation. For instance, regarding cost cutbacks through Free Software to be a constant during the whole process: a subject packed with controversy and very focused on the results of Free Software as a tool, but not on the interactions or the participative model or the resources (even economical) that the model could generate. The same thing happens with the issue of software

usage, its accessibility, systems' security, etc., all very important discussions, which are generally focused on the technical aspects of Free Software and not on the social issues.

Finally, the research group faced many concepts founded around Free Software related concepts and visions. This thematic is surrounded by countless myths and assumptions: political considerations, apathy, exclusion, prejudice, and overwhelming expectations, the ideal of the Free Software community as an egalitarian and inclusive space, Free Software often being identified with traditional left or right wing politics, and access to technology as the key to social and economic development. All of these ideas and imagery would be confronted once and again with the experiences and information found in the region.

Collective Construction and Group Dynamics

In order to work with the regional counterparts, face-to-face meetings were held two throughout the research and a virtual group used to share information and work in a collaborative manner on the concepts and instruments.

During the first counterpart meeting (August 2004 in Costa Rica) the group came together to determine common concepts, discuss them from experience and collectively define which were the areas of interest in the research. It is important to note that all counterparts had very different levels of experience in research on social matters, especially in a subject in which most integrants had worked form a technical optic. The participative methodology implemented for this meeting gave resulted in a common frame that profited on the diversity of the counterparts, even in matters of disagreements and different priorities.

This group of collaborators drifted through a two year process of ups and downs: moments of confusion in which tasks and expectations were not very clear, negotiating the terms of the relationship, building up trust, changes of the staff dedicated to the project, institutional changes and multiple work and personal obligations.

The small research team at Bellanet wouldn't have been able to access the amount of data and the quality of the information contained in the process without the help of said counterparts. In Mexico, Argentina, Venezuela and Brazil (where interviews were carried out in a deeper level) it wouldn't have been possible to access the information networks of different sectors without the help of the local counterparts and their trust and commitment-based relationships with some of the Free Software groups. This accessibility to certain groups and venues limited the scope of the project. Key actors were not consulted during the research: complete countries and important sectors (such as the academic sector) were not covered in ideal depth, but within time, methodology and budget limitations.

The Big Chart

The first real joint effort of the counterparts was to create a big chart containing the categories, variables and sub-variables of the research. This chart defined which were the thematic priorities and the desired approach. During its creation the following questions arose: What do we want to learn? What do we want to understand better? What variables lead us to better accomplish the objectives?

As a result of this effort three main categories were obtained, with variables and sub-variables that are more thoroughly explained in the Final Research Report (attached in the CD).

The first category is oriented to understanding the collaboration processes for the production of Free Software, as well as the processes of collaboration that articulate for the use of Free Software in networks and communities. This matter is basic for understanding human interactions, the dynamics and the knowledge exchange procedures and collective constructions in Free Software networks. The intention was not to see software as the ultimate result of the production process or its characteristics, but knowing the people behind the initiatives, its context and the links that start emerging between individuals and organizations.

The second category speaks about the necessary and existing conditions that limit or incite Free Software appropriation in the region. This was considered a first order category because in Latin America there are social, economic and political conditions that build up a complex scenario in which ICT's are being adopted and created. This complexity cannot be overlooked in the research process because it helps to understand the position of the different actors from their sectors and from the conditions they have for producing Free Software. For instance, it helps understand if actors consider Free Software as answering to the local employment needs, or to the State's technological infrastructure, or to women's digital inclusion, etc.

The third category is dedicated to understanding the relationships established between Free Software networks and the organizations and institutions working for social and economic development, or that have a perspective for developing and bettering living conditions in their community, country or in the region itself. This approach was chosen because it was a priority to identify which were the links that were being established between networks with technical objectives and networks with social objectives, and which were the challenges they were facing in this relationships and what were the mutual benefits.

The ideas exposed in this big chart were discussed and prioritized by the group. It was not possible to include the interests of all of the counterparts, so a common basis was negotiated to allow covering the subjects in some level

of depth, without forgetting that the objective of the research was oriented towards a general vision of Free Software in the region. The great chart was the document that guided the creation of the instruments, the formulation of the questions and the analysis of the data until the end of the research.

Creation and Application of the Instruments

To explore the first category it became necessary to reach out to the users and developers of Free Software in the different countries of the region. Many specific questions arose: who are they, what are their motivations, interests and the characteristics constituting the community they belong to. It was decided to carry out an online survey, taking into account that this would exclude population without access to Internet. The survey was designed jointly and the formulation of some questions was a result of a very intense negotiation, where the objectives of the research had to be constantly remembered, the definition of the categories, etc. The aim was to express the questions in an open manner, without handing out too many definitions (hoping they would use their own), in order to determine their level of identification towards the questionnaire.

The online survey was completed by more than 800 people. The promotion of the survey was in charge of the local counterparts, thus the greatest participation comes from networks that were closer to the group. Nonetheless, a great array of countries, groups and levels of involvement were found. Here extensive and fast Free Software networks' communication systems played a key role: the invitation passed on from mailing list to mailing list, through different websites, many times losing track of its objectives and origin.

In this phase there was very little participation from Brazil (even though the survey was available in Portuguese and French). Doing a retrospective analysis it was concluded that the time of the survey might not have been the best for Brazilian participants. After the closing date numerous kinds of proposals were received that were already too late to process, but that are also available with the rest of the data.

To analyze the second and third categories it was decided to implement semi-structured interviews on people from diverse sectors. The interview was also designed jointly but modified by each interviewer at the moment of its application, for better adjustment to the context and the interviewed subject. The questions are related to the context and the organizational structures for adoption and development of Free Software, and the relationships among the actors with the issue of social and economic development in the region.

The number of interviews per sub-region was uneven; it was not aimed at a uniformed coverage of the sectors, nor was a scientific sample selected. Once again, local and international networks

were used, which also conditioned the obtained results: the countries where the counterparts were located (or where they have presence) contributed with the most interviews. In total around 47 interviews were obtained, done by phone, personally or through e-mail.

The second counterparts' meeting was also held in Costa Rica in late May 2005. This time the group met to do a preliminary analysis of the data obtained until then. At that time the data for the survey had already been processed and the counterparts had begun doing interviews in their own sub-regions. This meeting determined a prioritizing of sectors and countries which seemed pertinent and interesting or which had a sufficient availability to deepen in the objectives of the research and with what was being obtained in the exploration of the categories.

From the preliminary analysis of data obtained at the time, the research team designed a very flexible "basic interview" that could adapt to every studied sector. Additionally, it was decided that in order to dialogue and construct with some of the sectors it would be important to do some group activities in different countries, which would allow to appreciate the richness and diversity of a certain group when obtaining the data.

In-Depth Interviews and Activities in the Region

In May 2005 several in-depth interviews were carried out in Mexico City. Our local counterpart, La Neta, was the contact to access some people especially linked to the private sector and involved in enterprises that emerged form the business model of Free Software.

During these same days the research team had opportunity of carrying on an activity summoned by La Neta to a group of social organizations, interested in learning about the installation of a free operational system. In the training session there was a chance to talk as a group about these organizations' perspectives on Free Software and its instrumental use.

Priority Countries and Sectors

MEXICO
Private Sector

Civil Society

ARGENTINA
Civil Society

Developers' Groups

BRAZIL
Government

Women's Groups

VENEZUELA
Government

In late May the team took part in the first meeting on Free Software and Social Appropriation of New Technologies, organized by ARCIS University in Santiago, Chile. Here, more in depth conversation was done with some of the actors that had already been covered by the semi-structured high quality interviews performed by Erick Baez.

Days later the VI International Free Software Forum took place in Porto Alegre, Brazil. Here, the team could access people involved with the local government and who participated in formulating policies on Free Software. Interviews were also held with the women who had founded and integrated some of the groups of Women and Free Software and who, together with the Forum, organize the yearly Encounter of Women and Free Software.

During the month of July 2005 several people in Argentina were interviewed, especially developers and members of the UTUTO community, a distribution of Linux created and maintained mainly in Argentina. These interviews are the main resource for the Stephane Couture case study, which completes this publication.

Also in Buenos Aires, an encounter of social organizations from different parts of the country was organized, together with our counterpart SOLAR, which met up to discuss the possibilities of working together with Free Software Networks and to train on basic notions of the subject.

Meanwhile, Alfa-Redi counterpart, Erick Iriarte, was carrying out in-depth interviews in Venezuela, with State functionaries and other key actors in the country.

During this phase and despite the team's intentions, it was not possible to cover the sub-regions of the Caribbean and Central America. In these two regions the organized Free Software communities are few, and within the period of investigation there was no opportunity that allowed exploring these networks to a greater depth. Nonetheless, the data for Central America is completed with semi-structured interviews of very high standards in different sectors and countries.

Case Studies

During the research period, topics emerged complementing the development of the research, which were decided to turn into case studies or attached documents to the investigation's final report. The first one appeared by initiative of a counterpart in the Andes Region, Alfa-Redi, which proposed a study on the judicial scenarios for Free Software in the different countries of the region. The article was finished by Fernando Maresca in late 2004, and recounts the normative and common characteristics of legal initiatives around Free Software in different countries and localities.

Another complementary study is the analysis of data through gender. Margarita Salas analyzed the results of

the survey and some deferential aspects between men and women's answers, and did a conceptual deepening into the subject of gender and ICTs (which is her line of work). Margarita also made use of the interviews done to women organized around Free Software and complementary materials that different groups facilitated for its analysis.

Stephane Couture, from the University of Quebec at Montreal, carried out two case studies of high theoretic quality containing intense fieldwork. One of those case studies completes this publication. The other case study examines the organization Projecto Software Livre Brazil, its structures and its operation, as well as its perspectives and projections.

All these complementary studies are included in digital format in the CD attached to this publication.

From the Instruments to the Conclusions

On August 2005 the team had collected a great amount and array of data (with variety that went further than anticipated), including some 30 interviews and meaningful documents. The challenge of analyzing the data and obtaining feedback over the analysis motivated asking for an extension of the project until May 2006. During this time the team finished processing the data and doing the analysis, and tried to obtain feedback form different people in the networks that had been constructed during the process. Also, materials and sources were made available in digital format, as is this publication.

Verónica Xhardez, social investigator, collaborated in the analysis of the data, who was our counterpart for the South Cone and collaborated during the course of the research with constant methodological support. Her contribution is present in the Final report document, especially in the section on Social Organizations

The guidelines to analyze the data were the categories, variables and sub-variables established at the beginning of the process, summed up in the Big Chart. The sub-variables and variables which first led to the queries were reflected within each subject matter. Bearing this in mind, the work is organized in several parts:

- A section on networks and Free Software Groups, to study the data given by users and developers. This section corresponds to the development of the first category of the research.
- A section on the conditions of the context for the appropriation of Fee Software in the region in general, with correspondence to the second category of the research.
- Three sections that would allow exploring the results obtained in the sectors studied in more depth: Governments, Social Organizations and Private Enterprise. These Sections explore the relationships of Free Software networks with the

diverse actors of development (third category) and at the same time allowed identifying some common agendas among said sectors.

- A section characterizing some of the initiatives related with free knowledge that have particular relationships to the Free Software Networks.

Using the Big Chart as a guideline, each of the sub-variables was structured, shaping the general idea left by the reading of the material's totality, and complementing this interpretation with the words of those interviewed and the quotes from the moments in which their ideas were representative of what others said as well.

In other occasions, the data was taken directly from surveys done to users and developers to illustrate or exemplify one of the conclusions. In other moments, a given interviewee contributed with a particular opinion, which was considered relevant, it was also included. During the process of analysis, aside from agreements or coincidences, contradictions, discrepancies and important disagreements were also outlined.

Nevertheless, it is always important to point out that this qualitative analysis can only become an interpretation of what those interviewed intended to say with their answers. In other words, it is until the end that researchers choose and discriminate the relevance of the material, the coherence in the points of view and, of course, the conclusions they lead to.

The intention is not to create a unique revelation of the data, but an interpretation from what was observed and understood in the process of this research. Other interpretations are possible (and desirable). The transcribed interviews in the audio archive, as well as the public data obtained through the survey, are available for processing and reinterpreting. The research team wishes for this data to be useful for reaching new conclusions, or enriched with materials that, given our limitations, were not possible to obtain.

Incorporation of New Authors

The research team is aware that the perspectives on the topic of Free Software in Latin America and the Caribbean are as numerous as they are different. It is not possible to pretend that the broad and open Free Software Networks are free from conceptual, ideological, methodological and interpretative conflicts.

Also, the approach of this study is definitely limited, and broader knowledge of the networks and interrelationships between the people who make up "the community" could be better understood form its locus, or from other experiences. At the end of the process of analysis it was decided to contact other authors, key people with whom contact had been established throughout the process, getting them to do a reading of the first draft of results. From this first reading came a

critical view that modified the document not only in its form, but also in its content.

Moreover, several authors were asked to complete this publication with an article of their own, written from their own experience. Integrating more voices and visions was seen as something that could give the readers an idea of how diverse and changing the treatment of the subject could be.

Different Approaches, Different Opportunities

This research was always seen by the team as a great opportunity to approach a very extensive subject matter that not only states new conceptual challenges, but also given its particularities, demands a great methodological effort for its study.

Regarding the way in which the research was carried out, valuable lessons were learned on the implications of doing this kind of work collectively. It is important to note that these very lessons were learned through the ways in which groups and networks around Free Software operate.

For a future project, the team considers important involving more counterparts that could add more diversity and coverage to the subject, in spite of the difficulties of coordination and budget that this would imply. In this case a greater coverage would have maybe allowed covering the academic sector, accessing the networks in the English-speaking Caribbean countries, or countries like Colombia, Bolivia and Paraguay, where the tasks exceeded the capabilities and good will of our counterparts.

It is also necessary to find a way of making the research process even more participative and including more people with diverse viewpoints for each stage. Another stated challenge is finding means to project the results faster, so they can receive feedback and be enriched faster.

In this particular case, the process followed and the decisions taken led to a path filled with knowledge and many professional and personal findings and rewards. The research team humbly offers the results of this work to the extensive networks that allowed an approach to their own values, aspirations and concrete actions.

MAIN FINDINGS IN THE INVESTIGATION

Set out from the objectives and categories stated by the research team, an analysis was carried out, which is fundamentally based in qualitative data. The ideas that lead to the conclusions and highlighted issues, were expressed by those interviewed or by the groups with which contact was held during the process. The analysis of the data along with the quotes' support and resources that sustain it, can be found in greater detail in the Final Report attached to this publication. Here, a summary that allows a fast review of the main ideas is offered.

As mentioned in the last section, the results of the analysis correspond to one of the possible interpretations the material allows. These results are permeated not only by a subjective vision on Free Software and the context of the region, but also by the ideas that were incorporated into the research's repertoire throughout the process.

Just as the general objective for this study states, the interpretation provides a horizontal vision, without going too deep into it or taking the time to reexamine conceptual aspects. Nonetheless, it contains some elements of interest to describe the subject and generate new angles in a permanent discussion.

Free Software Networks: Users, Developers and Communities

The Latin American Free Software networks or communities turned out to be very diverse and differ from one country to another, or even in a local level, in their organizational structures. The diversity is impressive and allowed the group to imagine how far basic information on Free Software has gone, and to some point, where ICT's have reached in incorporating into the everyday life of the region's people.

For example, a big community was found in Mexico that covers from anarchist to entrepreneurs; a highly organized community in Brazil that works jointly with people from all regions of the country; and a poorly organized and poorly articulated community in Central America and the Caribbean which is trying to construct its identity with little resources. Nevertheless, and despite of the limitations of the instrument applied to determine these variables, some clues were found to deepen into this matter.

Many of the themes stated as conclusions are probably known by people who have participated in Free Software networks' organized instances and will not bring many surprises. It is not intended to portray all the Free Software community, but instead to do an interpretation of the data gathered in the region, through the approach of our own observations.

Participation

According to the data extracted from the survey, participation in communities or networks related to Free Software is strongly related to who the members of the community are and where they come from. It also has to do with the concepts of "community", "developer" and "user" each of them has, concepts which were discussed repeatedly by the research team.

During the interviews, the generalized idea that "there's a little of everything" was a constant, and it's members are as diverse as their initiatives and interests. The survey depicts a sample that is mostly limited, but on the contrary indicates a very well drawn uniformity: middle class, appropriate connectivity, youth, male gender, and a good educational level are the most numerous segment. The great majority still come from the informatics and computer sciences

field, and indicate having English as a second language.

Relying on generalization, we come upon a middle class segment with access to services and education. Although more diverse actors keep incorporating (women, people with little or no schooling, professionals from other disciplines, etc.), the aforementioned characteristics are predominant, and the changes or inclusions from other groups occur form conscious efforts of inclusion and diversification in fields and origins within the groups.

The assumed principle is that there is no discrimination and no differentiation is made between people who participate in the network. Most of the people interviewed still think it works that way. Nevertheless, disagreements exist and become evident: some members become differentiated because of gender, socio-economic level, formal education or operational levels of technology tools. These differences inhibit participation and opinions of some partakers and turn some communities into exclusive spaces.

Believing and Thinking in Free Software

Not all of the actors consider they are assuming an ideological or philosophical position through their participation in a group of Free Software. According to what was observed, both in the interviews and in the interaction with different groups, a part of the community supports the values of freedom of software and freedom of general knowledge, and positions Free Software in a much more political level where it is actively involved. Another part of the community is more inclined towards the concept of Open Source or Open Root Code, which reflects in much more pragmatic values focused in the technical and commercial advantages of the software's model of development. Other networks have intermediate positions or diverging proposals, from rejecting community political discussion to committing to specific political parties. In some groups, members with a high technical profile manage to position themselves in an ideological or political level in a broad manner, but this position does not necessarily represent the whole group.

This subject emerged during the research when the instruments were oriented to studying groups or communities. Some participants commented that Free Software and Open Code should compete in the same conditions as Registered Software, in terms of processes, relationships and structures; and that the fact of organizing into communities represented a disadvantage in this sense.

Different points of view can be observed both in Free Software users and developers. Perspectives seem to coexist, not always peacefully, in the very same networks observed. If in fact most of the spaces are of a technical nature, some spaces emerge specifically

to discuss political or social matters, such as the Hipatia Community and the PSL-Mulheres Community.

The issue of differences, divisions and conflicts that have emerged from political and ideological positions, be it related to traditional political tendencies or with flourishing global conflicts, is a subject that could be developed much more thoroughly. For instance, currently, the process of creation of new version of the GPL license (GPLv3) has brought to light many controversies in which the Latin America Communities are constantly debating and participating.

Remaining a Community

Sustainability of communities has several sides to it. On one hand, there is economic sustainability, which allows development of projects and activities of interest for the group, from financing the hours of some of the software creators to supporting face to face users' meetings, installation festivals, etc. Obtaining financing for the community always seems to be a conflict and is perceived as a problem by the survey participants, but it's not indicated as the biggest of problems.

They indicate that practically all financing of network activities is voluntary and many want it to remain that way. Some of these communities have managed, as such, to carry out activities that grant them some kind of income for internal matters, but this is not the norm: making money from Free Software is described in the interviews as something that businesses do around the community, not within the community itself.

Precisely, one of the big questions in several of the communities is how much they have to become formal and organized structures in order to access and manage funds (such is the case of Association Software Livre, which branched from Projecto Software Libre Rio Grande do Sul). It is particularly evident in the interviews that while some insist this would be the best way to operate, others sustain that the spirit of the community is precisely its changing and constantly moving character, where responsibilities are acquired through identification and commitment and not through formal structures.

Now, this commitment and identification has to do with the motivation of the members to give continuity to the community. While some groups remain and achieve great things, providing continuity and growth for their products and activities, others disappear within a few months. The reasons for which this may happen are pointed out by the participants in the survey: lack of interest in the discussed matters, irrelevance or little need for the existence of the group, few technical challenges to undertake, disagreements on the direction of the project and/or personal problems within the community.

Belonging

Regarding motivations to participate in communities and projects, it was found in the survey that the practical motivations that have to do with obtaining a code or support, obtaining software for a specific purpose or collaborating becomes necessary in itself or for working. Nevertheless, a big part of the motivation comes from a personal, ideological, political or technical identification to the group. One becomes part of the community because it's fun to experiment with the code, to construct collectively and surpass the limitations of the instrument. One becomes part of the community because one wants the users' database to grow, promote certain ideas and the software that represents these ideas. A very important number of people interviewed during the research are part of the communities (be it of more technical orientation or more socially oriented) because of a great degree of social and political commitment.

From the reflection of the research team it is clear that belonging to a community is very difficult to define, and has no strict limits. Defining if one is a user or developer, or part of a community, does not become evident thus it depends on the degree of personal involvement with the project. Some of those interviewed stated that someone could consider himself as part of a community by only testing a Software Product.

According to the data obtained, there are few Free Software developers economically rewarded for their contributions. Nevertheless, as long as the Free Software market keeps growing and new initiatives appear around it, new work and business opportunities emerge for the members of the community. Many of them, on the contrary, have to create a space within their working hours to introduce Free Software and experiment with it.

Difficulties

From the data obtained, the elements that determine the particularity of independent and changing communities are precisely the ones that are considered as greater challenges in terms of making the community work better. The lack of funding for developing projects and activities, the lack of participation and the little involvement of people, the lack of promotion or knowledge on Free Software outside the community, are elements that are designated as challenges.

Promoting the community and Free Software is one of the main tasks of the groups, especially users. Ensuring a greater number of Free Software users would allow them to increase their action realm, having more participation, extending the market where the economical activity of the community is developed, having more added knowledge applicable to improving and changing software, etc. Achieving the incorporation of new people seems to be a constant challenge; nevertheless, a great technological and social barrier

still prevails over including a greater number of persons in the Free Software matter. The technical barrier, according to the interviewed, is still important. The degree of access to the Internet and the level of proficiency in handling other languages can still be determinant. It is still a challenge getting more people to join without losing the essence of a highly technical community where software is improved and created. Inclusion vs. exclusivity is yet another tension Free Software communities still face.

Influence in the Scene

Some communities in the region have reached a degree or volume of organization that grants them some presence. Sometimes, becoming a referent to the community at a national or local level gives them the drive and access to discussions like the use and development of Free Software in Public Administration. That presence is permanently questioned by the dynamic and changing ways in which people assemble and disassemble. When new networks are created, weather formally institutionalized or not, one of the main challenges is to legitimize them as part of a broader network, which can generally be done through executing work. Internal conflicts don't cease to be present and many think that it is precisely in these processes where people begin to prevail over collective objectives.

Nevertheless, it is also through the work of some leaders who take on a dominant role in communities that most of the initiatives are carried out. At least, throughout the observation carried out in the region, it was possible to determine that some leaders are the ones who impel the most strategic and political matters among the communities, while most of the group itself is devoted to supporting it by doing "ant labor" required by every initiative. Both roles are valued within the network and acknowledged as important work. Clearly, leaderships are key because counterparts such as Government need people with whom to identify "the movement" for establishing dialogue and negotiation.

The level of influence of the most organized communities is being tested and it is at this moment when results start to become evident. Free Software communities in the region are an important part of the actors who have brought to public light important matters such as intellectual property, copyrights, privacy, freedom of expression, and other issues into the light of globalization and the new worldwide scenario. Free Software communities have extended part of the discussion on rights to the technological community, and have triggered the discussion on free and open contents, open standards, and common cultural assets, not only in their communities, but also in their countries and the whole region.

According to the interviews, another key place to create influence, create groups and extend users database are Universities; considering education as a strategic sector for conscious appropriation of the tool and definitely confirming the idea that giving importance to education as a strategic space for the networks' expansion in members and resources.

Processes and Procedures for Knowledge Exchange

The Free Software communities accessed in this study are not necessarily democratic and horizontal. There are communities that have established leaderships on technical competence; others where political leaderships have become more relevant; others that reject the existence of directing groups, and others that are still deciding where to place these leaderships and decision-making. Also, power-structures and decision-making in each community also depend on their objective: for a Software developers' community it is priority to have structure that allows greater quality and efficiency in the production of software. Thus, it is organized based on technical competence and practical experience on the code. A community of users, for instance, where members basically interact on-line to help each other clear doubts, can have a much more open structure where the decisions are made by the members and have no influence over the behavior of other members (beyond technical control of virtual space).

In general, according to the surveys and interviews, structures don't tend to be rigid and relationships between members are founded over unwritten rules of behavior where merit, commitment, presence and input are key.

Anyway, there are some initiatives where the objectives are more related to social issues than to technical ones, and which aim implementing open, democratic participation systems. Some interviewed pointed out that this would allow the involvement of all people interested in the matter, even if these were not very common procedures in these sectors and could lead to discussions on related political tendencies and related means of action. The more open the organization is towards the community, the more need to find consensus on procedures for decision-making involving participants as peers.

Both user and developer communities, are highly regarded as consensus space, where all peers can be favored from the exchange. This was pointed out by people from all sectors. Participants from different areas and abilities bring questions and answers to the discussion, and in this permanent and irregularly timed exchange is where joint field knowledge is produced. As with the code, this is a product to which everyone has access and which is subject to being criticized, transformed or ignored.

The task of developing Free Software can be a collective one or an individual one. When the developers were asked about their preferences, the percentages were

very similar. There are those who feel more comfortable developing collective work and those who would rather do it individually and then submit their work to the group. This group exchange is highly valued and participation in general discussions are acknowledged as the means to participate actively in the community.

In order to participate in the community, several tools are needed. According to enquiries carried out, mailing lists are still the main tool, in spite of the innovation that other resources such as blogs, wikis, collective sites, version control systems, etc. have represented, since mailing lists are sometimes the only resource for interaction that the group has, and the use of these resources is still limited.

In technically oriented communities, it was observed that the main exchange practice consists in generally discussing common problems and solutions. The problems are stated in a communication space where solutions compete with each other and are aimed towards finding the most suitable one through dialogue. For an initiative to get the attention of the community it must be identified as a challenge, a chance for improving software or helping others.

It is worth mentioning that Latin American developers and users affirm to be participating in very diverse processes within or outside the community; not all of them are involved with code writing. A great number of today's communities have dedicated to assume leadership in positions and processes, endeavoring group and community organization and promoting community participation. Some people are currently more involved with this aspect than directly creating software. Other roles within the communities of developers are also open for people who don't have the technical capabilities to write software, such as translation, interface and graphics design, and Software testing.

On the other hand, it becomes evident through the surveys and interviews that users' communities have assumed an essential role in offering support to other users (be it online or personally), and some have developed strategies for preparing other users and developers, doing publicity and promoting the use and development of Free Software, etc.

A lower percentage, though nevertheless having presence in qualitative data, are the members of communities that are somehow considering the social impact of Free Software and transferring proposals such as Free Software into other social spheres, such as Government or civil society organizations. These people are bridging community and groups interested in Free Software as a means for social change.

Relationships: Constant Tensions

While analyzing the data it was intended to observe how some important relationships were established in the region, having a lot to do with the way in which Free Software is developed

and used. For instance, it was of interest to know to what extent participation is by isolated individuals instead of organizations integrating Free Software communities. Nonetheless, this was difficult to determine and only intuitively it could be observed that many times the approach occurs because people interested get involved and take part in the communities, and it is these persons who later get their organizations involved.

Another relationship that became important, and is considered as an interesting conclusion to the survey, is that the local ground is the most important for the users and developers' communities. In spite of what could be thought about interaction taking place online (and therefore location being unimportant), many users and developers build and integrate communities on a local basis to develop software, find technical support and become identified with the community in general. Many Free Software development projects that were accessed throughout the investigation have generated among close groups, sharing territoriality and therefore already having some trust and identification with each other, and where outside members are incorporated afterwards. This local relationship is important because software development and participation of people in the communities respond to local needs and would be employing local knowledge to generate expanding networks and junctures on the outside.

If in fact physical encounters are not always possible when it comes to communities where members are far away from each other (as a federal organization in a country or even several countries sharing one same community); an important sector of community participants - especially developers - can allow themselves communication other than virtual, in order to strengthen their relationships and joint work. This could be one of the reasons why an important number of developers prefer to be involved with local projects. Anyhow, virtual space continues to be the main one regarding projects involving developers and participants from far away places or on a global dimension.

Regarding development of commercial software vs. non-commercial or voluntary software development, it is also difficult to establish a clear relationship. Nevertheless, interviewed developers and users consider the possibility of developing Free Software with commercial purposes and conceive a market for Free Software given by the same liberties in software. Most think that Free Software can be a great opportunity to create work and generate economical wellbeing for developers and those involved in similar production processes.

It was not possible to identify a clear relationship between countries from the North with the ones in the South. Apparently the nature of the communities is highly influenced by

the language in which they operate. If developers have the possibility of communicating in English, they will participate with assurance in the English speaking communities. The local communities mainly develop in Spanish and Portuguese and the efficiency in communication is very important. In the communities we could observe there are efforts to include everyone, if possible, but generally there is always a particular predominant language for interaction. Hence, there are a lot of users and developers who find a participation space outside of Latin America, but national and regional communities are too consolidated to ensure participation in the South.

A relationship that is basic for the adequate development of Free Software projects is precisely that between users and Software developers. For some of the people asked, this division is inexistent, and those involved in Software creation, from initial ideas to testing and promotion are also its users. Nevertheless, in projects where these groups are differentiated, there are several relationship instances that evidence some technical barriers and suggestions to overcome them.

Reinforcing communication between users and developers is crucial for the Software development model, and is what allows it to acquire part of its added value: users contribute to creating software through its use and feedback during the process. The permanent challenge is achieving a sufficient identification between the user and the community process and that through this participation, it can be transformed.

Conditions for Software Appropriation in LAC

When the research group determined this category, the intention was to understand what existing specific conditions in Latin America and the Caribbean might be helping or otherwise hindering Free Software appropriation in the different sectors. One of the reasons for finding clues in the matter is that when it comes to making efforts and determining action frames in TIC matters, the change in conditions can be as important or more important than the actions themselves.

During the development of the methodological frame it was decided to focus the questions in two directions. One of them is the "macro environment" which embraces the whole region, the country or province, in a very broad and flexible sense of territoriality, useful for analyzing the context. This context would be expressed through sub-variables such as the educational system, the history and culture of the place, the legislative frame, the hardware and software situation in general, the lobbying efforts in public administration, the conditions for connectivity, etc. The other direction of interest was the "micro", meaning the conditions within the organizations

and institutions that allow or interfere with the actions around Free Software. These conditions would be expressed in the effective possibilities for accessing Free Software and in the organizational challenges around migration and adoption of new software.

From the beginning it was established that this part of the research would be harder to approach, because establishing these relationships and finding data for how the actors perceive the environment's influence requires the use of methodological tools that were not always available. Anyhow, this part of the publication tries to illustrate some of the completed interpretations with the opinions of the study's participants.

Macro Environment: the Region, the Country and the Local Scene

Diversity in historical and political scenarios in the Latin American region make it impossible to generalize and at the same time give coverage in a research of this nature, factors as elusive as culture or history, are affecting the way in which Information and Communication Technologies are being appropriated and created. Some testimonies gathered throughout the investigation (which might not be indicators of a general panorama for the whole region), illustrate how the environment's conditions are perceived and how they are affecting initiatives on communities, organizations and individuals.

Political and Economical History

Essentially, cultural and political history in the region affects ICTs´ appropriation means in different countries. It is not possible to separate the ICT issue from the social context of each country, because Free Software has always been related in different manners to the political forces. It is interesting to note that during the research a constant was found regarding the perception on Free Software as bringing traditionally opposing political sectors with diverse interests to the discussion table.

As a matter of fact, throughout the region, the Free Software topic is not only identified with left wing movements, but also with a broad sector of the industry that traditionally defends the free market. Nevertheless, it is evident that many leftist sectors from different countries are becoming increasingly involved with the Free Software movement. In general, most sectors within a broad political spectrum agree that Free Software acquires particularities that deal with the economical and social reality of the region. For some people, these particularities are not only important but also determining.

Education and Access to ICTs

Throughout the semi-structured interviews, almost all of those interviewed pointed out Free Software integration on education in their countries as a priority. In several sectors, education and preparation for Free Software use

at all levels was expressed as one of the priority issues in the agenda on local Free Software movement.

Many of those interviewed who work in the educational area expressed that in most countries of the region, educative initiatives that deal with ICTs are thought within the idea of "habilitating" people for using ownership software tools, turning them into machine operatives. The perspective for generating critical users, with the possibility of participating on the software design process and how it operates, is simply not considered. This is how the basic idea of education on ICTs is challenged by the Free Software model, which also anchors on collectiveness for finding solutions beyond the individual use of tools.

In general, consulted people agree in stating that for Free Software to be incorporated into countries in the region, it is necessary to create a lot of tools not only for the use of Software itself, but for supporting whole strategies of preparation for conceiving, developing and using Software with a sense of appropriation an authorship within the liberties that the different models offer.

Hardware, Software and Connectivity

Regarding servers and web infrastructure, practically everyone interviewed agree that Free Software has quickly gained ground in all sectors over the last few years (except for markets that are still strongly permeated by difficulty to replace copyright products). It is in the matter of final users where Free Software hasn't yet obtained great numbers. Nevertheless, this is moving forward through broad range public initiatives that not only consider Software a problem, but also Hardware and Connectivity.

For many of the interviewed, connection to the Internet is a necessary previous condition for migration attempts, not to mention the possibility of participating in the Free Software community. Nonetheless, for others, connectivity is not the most important factor because local networks can manage to fulfill the users´ communication needs. Conditions of connectivity, hardware and software in each country are determined mostly by economical variables. Some of those interviewed pointed out that existing hardware resources and support are designed to give continuity to licensed software use.

For filling the gap in terms of hardware and connectivity, there are several plans for the region's development in different stages. One example are those initiatives that aim to make low cost computers available to the public, with a basic configuration that also allows better connectivity conditions, such as the PC Conectado program in Brazil. This is yet another terrain in which Free Software is still struggling over spaces with Licensed Software dealers.

Public Policies and Lobbying

Dealing with public policies, the region has progressed unevenly in terms of establishing which Software will be used by the State (in other articles attached to this publication the implementation experiences in government that were commented throughout our research in the region are described more accurately). What seems to be clear for most of those interviewed is that Free Software is facing intense campaigns from the License Software industry, and private and public lobbying initiatives for maintaining the business model currently dominating most Latin American markets.

Lobbying efforts, persuasion work, publicity, marketing, promotion, special license deals, etc. raise suspicion in the region, especially because those interviewed recognize that corruption exists in all private and public levels and there isn't always transparency or technical criteria to justify choosing a particular software over another.

But lobbying does not only come from foreign Licensed Software companies. According to the people inquired, in some countries development of the Licensed Software exporting industry has been encouraged, expecting the high-tech sector to take on a leading role in local economy. In many opportunities, external and internal lobbying is accompanied by a position on "technological neutrality" and aims towards eliminating the discourse on information in property of public institutions, in favor of facts such as the total cost of said property. On this matter, our Alfa-Redi counterpart published, in early 2006, a document that gathers the main visions on technological neutrality being discussed throughout the region.

Micro Environment: Organization Challenges in the Adoption and Development of Free Software

The organizational challenges in the micro layer somehow reproduce those found in a wider country or sub-region layer. Involvement of decision-makers and final users are added to these same challenges. The interviews reported that perception of many sectors on Free Software and its costs also constitute a challenge associated with training and availability of technicians foreign to organizations. Below is a summary of some of the main observations from the interviews:

- **Access to Hardware and Software.** Acquiring new hardware is a strong investment. Adopting Free Software could be an opportunity to reuse lower configuration machines for certain tasks, nevertheless, Free Software adoption also means investment in migration, reconfiguration, compatible hardware, etc.
- **Investment in training and technical support.** Free Software means training both users and system administrators. This could be seen as a short-term expense

or an investment policy in training with mid-size financial and technical results.

- **Limited service market.** In some countries or provinces, the service market for training, support, migration and adaptation of Software is limited, and this handicap could mean that costs become inaccessible. In an ideal situation, Free Software networks have a level of management or organizational development that allows them to provide these services in a more structured and formal manner, and not only through mechanisms such as lists or peer support.

Training and basic technical support services in licensed software are widely extended and offer allows low prices. Even training in licensed software is often integrated to public and private education, to technical training and higher education in Universities, where it is approached as part of the basic preparation for the working environment. Many businesses, organizations and government institutions do not invest in basic software operation training, because it is supposed to be "included" in the staff's capabilities.

- **Support from decision-makers.** In the semi-structured interviews, the option "Support from decision-makers" was considered one of the most important factors contributing to Free Software adoption. Free Software introduction from technical levels, works as a strategy until it reaches a certain point, while the economical, strategic, en efficiency aspects involve practically every layer in the organization.
- **Support from final users.** The latter sometimes show fear or lack of interest when it comes to changing their habits or customs regarding the use of a particular tool. Nevertheless, this interest is almost always influenced by lack of opportunities in training, and by the loss of an area of knowledge which they considered already conquered. The lack of support availability can create rejection in new users.

Maybe the most common remark during the interviews doesn't make reference to final desktop users, but to departments of informatics or people in charge of giving support in a particular organization. In these levels a particular reluctance can be felt for various reasons. In many occasions these people are qualified and educated through ownership solutions, and switching to other software means an important change in their work dynamics and in the necessary knowledge they must acquire. The work with intermediate levels demands adequate approach and strategy.

Prospects and Results

Another factor that reinforces or weakens Free Software's take over the organization is the relationship between prospects and results derived by an implementation or development project.

The expectations picked up in the interviews have to do with lowering costs, having more flexibility to modify and adapt software to specific needs, getting the necessary legal licenses in order to use software according to the established terms in all cases, having a greater control over the organization's information management. Another expectation factor is not depending on a single distributor for products, training, certifications, support, standards, Software modification, etc.

But prospects have to do also with productivity and quality: organizations hope that Free Software offers an equivalent or better solution than Licensed Software, pursuing that the apprenticeship curve remains smooth and that investment in training, hardware and support is cost-effective in order to implement the change.

When these expectations do not become tangible results, important reluctance is generated towards Free Software. Some of the people inquired state that unsuccessful or unplanned migration cases have received a lot of bad publicity form Licensed Software companies (what can happen if Free Software is used). Nevertheless, though less visible in commercial environments, there are numerous successful adoption and migration cases at all levels, which generate profound changes in organizations, positive results in some areas and negative ones in other areas.

Adoption of Free Software in an organization is therefore measured by an array of internal and external factors. The decision of implementing Free Software within the organization is not always exempt from a reflection on existing conditions and implications in a model change. Generating the conditions for adoption and development of Free Software has to be part of an integral strategy within organizations, where not only investment and system sustainability are considered, but also the principle on which they are based and the value given to information within.

FREE SOFTWARE BASED INITIATIVES

Part of the interviews in Mexico, Argentina and Brazil were done to business people who currently use Free Software as the base for their business model. The industry developing around Free Software is a service industry that does not profit directly from code creation, but from its implementation, adaptation and configuring for specific processes. As a service industry, the strategies for innovation and generating wealth differ from traditional software industry as a product under privative license.

Company Models

Most of the interviewed companies define themselves as small to average size, with few highly specialized employees. They are young businesses which require little initial investment. They are generally formed in the heart of the community and remain as an integral active part of the networks, in this way obtaining a great part of their market, work material and human resources.

PYMEs share the stage with big companies that are adopting FS as part of their business model and through collective innovation are providing added value to their more traditional products such as the transnational IBM. The array of services offered by the companies is also broad, especially when dealing with services of added value where the expertise and knowledge on management models, and the needs and particularities of every client are essential.

The fact that a certain company is small is perceived as an advantage by most of the interviewed businesspeople. The manageable size of the company is seen as a possibility to be flexible, innovative and creative in production processes. Also, the small size of the company is often framed in a broader idea of community, where support and post-development market for their own products amplifies.

Marketing and Promotion

Slowly Free Software based companies are beginning to provide themselves a market out of community networks. Companies are identified by "brands" that have made impact in the media, especially on matters of legal software license use. The promotion of Linux as an operative system has opened the door to Free Software service providers that go beyond servers and desktops, generating high added value services of greater proficiency.

Nevertheless, for the interviewed, freedom in Software is not always the hook that attracts the clients. Matters such as lower costs, security, stability and system flexibility, and amplitude of the implementation market within the limits of Free Software is also an important appeal that often surpasses the appeals of license terms.

In this way, most inquired Free Software based companies agreed that their competitiveness in the market is based in quality and flexibility. Their commercial attractive relates to their capabilities for delivering high added value products and services and for bringing this image to the consumer. Some feel they have to change the current perception of the Free Software community and "hackers".

One of the activities in the communities still visualized as an effective marketing strategy is events organized around the topic of Free Software. IFSL in Porto Alegre, Brazil,

attracted more than 4000 people in 2005; in a space that exhibited their services, from micro-enterprises to corporations. Free Software commercial and non-commercial initiatives come together in these events. With some exceptions, these meetings occur peacefully in the name of common objectives. Nevertheless, the problem of losing ground to commercial interests (especially in big corporations which have incorporated Free Software) brings out the reflection among community members of regaining other spaces for sharing knowledge and developing joint initiatives without commercial interests necessarily getting in the way.

Clients and Market

According to the people inquired, the region's software market is basically government and companies. A minimum of isolated final users could be considered a market where Software is a consumption good.

When basing their companies in a service model, they aim at longer-term relationships with clients than if they bought new software everyday. These companies seek to create a service relationship with the client. Some of them even insist that this model is the only one sustainable in the local market because Licensed Software companies hoping to sell licenses have little possibilities of competing with transnational companies that basically offer the same.

Free Software based companies still face important challenges regarding image, market and costumer relationships. Many consider that "mid-range actors", hence, technicians placed in companies and government, have been brought up in the licensed software model and have some resistance towards free models. Thus, the work of the clients goes through making good use of the commercial advantages of an added value service, the possibility of offering better prices, the flexibility in adapting software… in order to start a collaborative dynamic with the client where the Free Software model exhibits its benefits. For instance, promoting collaboration instead of competition and allowing (even promoting) other companies to compete with their own products, creating trust in the client knowing there will be no dependence on the supplier.

Relationship with Community Networks

Based on the interviews it could be affirmed that the greatest advantage Free Software-based companies have is counting on a network or community around them. The community becomes an expansive market, a source of innovation, a way of bettering and scaling up products, a field for testing ideas and versions and a source for qualified human resources.

Many of the inquired companies were formed from Free Software network

spaces and continue in intense relationship with them (assuming leaderships in users´ groups, organizing events or collaborating economically, or working in non-profit projects). People that make up enterprises and the new human resources that incorporate them, frequently know and acknowledge each other by their merits or roles in the communities and for their contributions to software development through "practice".

Some companies such as Open Intelligence in Mexico operate as links between developers who do not nourish their more commercial dealer profile and clients who need their services; providing the necessary infrastructure for facilitating said developers´ exclusive dedication. According to this company, it also operates as mediator between clients and a community often stigmatized and associated with radical or inflexible procedures.

One of the tensions in the community, which is sometimes controversial, is the perspective on "Open Source" or open root code, which prevails in the position of companies to detach from the philosophical aspects of Free Software, hoping to reach clients from exclusively commercial terms. On assuming the Open Source discourse and distancing themselves from more abstract topics such as liberty and cooperatives, companies are perceived as competing using the same language as private companies based on licensed software, but offering the advantages of the model.

Another issue argued about on some interviews is that there are Free Software based companies that take the code developed by the community for their own businesses, but do not return the investment, meaning, they do not collaborate on collective construction of new software, new projects, or personal time for community contributions. It is even said that some companies give all the social or non-profit projects to the community, but keep projects or clients who generate economic profit to themselves. Giving back to the community is considered key to the model, and not doing it is strongly condemned within it..

Strong Points and Points to be Strengthened

- **Better understanding and knowledge dissemination of a business model based on services over products.** The management model based on services differs from the product based management model. Until now in the Software industry, the product selling management model is the one that has supposedly flourished the most. Many differ, affirming that the true market value has always been around services´ added value accompanying software. More understanding over implications of both models and how service model based management operates is still necessary: where their profits come from, how these are managed and invested.

- **Fomenting more service levels and diversity in Free Software enterprises.** Most of those interviewed state that it is necessary to encourage the creation of more volume and diversity in Free Software based enterprises. For example, it is vital to ensure support and sustainability of the projects to generate trust among customers. Those interviewed also assure that the diversity in enterprises could amplify the coverage in different existing and growing markets. For this reason, said enterprises must rely on management tools and possibilities for providing quality services.
- **Training in management administration for new initiatives.** To assure that new initiatives are successful it is necessary to go beyond innovative ideas in Software. Business management in Free Software is a challenge for which most people in the community find themselves unfitting. From legal aspects to the formal creation of a company in their country, to customer relationships, new enterprises come across a higher number of obstacles that have nothing to do with technical capacities in Free Software or delivering adequate services. Be it training in communities or incorporating new people or developing business-oriented organizations to the projects, are things that would bring great benefit to these new initiatives.
- **Alliances with networks and national or transnational actors.** An opportunity perceived by enterprises is to merge, be it on a local, national and international level. Some see in certifications an opportunity to market their products ensuring quality standards and therefore seeking alliances with the Linux Professional Institute (LPI). Others have seen in national articulation a huge source of benefits, such as Projecto Software Livre Brazil (more detailed in the case study attached to this investigation). Other enterprises, such as Opensa in Argentina, have merged with actors from different sectors seeking fair businesses that benefit both parties.

In general terms, most of the challenges for Free Software based enterprises are common to software businesses from all countries in the region. Said enterprises face licensed software monopoly models with big budgets for publicity, marketing and lobbying. Within them, competition and collaboration are two key elements at stake when it comes to doing business within the community.

FREE SOFTWARE AS A DEVELOPING TOOL IN SOCIAL ORGANIZATIONS

One of the main interests of the research was to explore the vision of the social organizations towards Free Software and how they are incorporating it into their work and the fulfillment of their objectives. Nevertheless, the Free Software issue is still new for most social

organizations and answers couldn't be found for all of the questions stated at the beginning of the research.

After a process adoption and appropriation of ICTs, during the last few years the interviewed organizations are making instrumental usage of Software and Hardware and have managed to establish some capacities to improve their work. Free Software is a new challenge for them, a new variable that not only deals with technicalities, but also with the principles by which the tool is constructed.

Simultaneously, in several spaces (such as mailing lists, international forums, etc.), Free Software networks are claiming active participation in matters approached by social organizations in the region: digital inclusion, access to public information, transparency in the use of public funds, binding economy, etc. This results in them sharing more than one common space, which is not conflict-free, but with great synergic potential.

Relationships between social organizations and Free Software groups are taking place on different levels and this becomes evident in the interaction. On one hand, we find information on how organizations are incorporating into the Free Software world and bridging with other communities organized in different manners; how they are assuming FS in practical organizational levels; what challenges and conflicts they are facing and what results are being observed, even in the social impact of their decisions. On the other hand, we find some indications of how the approach between social movements that base their actions in completely different fields is taking place, and how they are finding many common grounds within Free Software networks.

Free Software as a Tool of Political Content

Representatives of social organizations that were interviewed for this investigation pointed out two angles from which their organizations approach Free Software.

One is political and ideological affinity, which has to do with freedom of knowledge and a higher access to ICTs. Choosing Free Software sometimes occurs because of sympathy within the organizations´ missions. From the interviews an appraisal could be recognized on the quest for an ethical and legal response to the needs of the organization (assuming the effort of implementing change as a benefit to their own cause).

On the other hand, some organizations observed have a more rationalist profile when it comes to choosing their tools (in relation to costs, support and needs –or not- for using free tools). This posture is enclosed by a pragmmatic and totally operative vision, over an initial agreement regarding a more appropriate and legal alternative for organizations with social purposes.

Regarding software as a tool is important in order to understand this matter. Most of these organizations approach software in general as tool users. They do not see themselves as creators or participants in the conception of software, but at the receiving end of a finished product destined for fulfilling other tasks. In these terms, in spite of understanding the political context in which Free Software is developed and acquired, it is not an automatic process that confers political content to the tool and allows the choice of any given software based on ethical principles. Years of using software in a completely operative context create demands from users that cannot be ignored despite the political commitment to the free model.

Limited time and lack of resources with which the interviewed organizations often have to deal with, sometimes do not allow concessions in apprenticeship time and experimenting with new software without interrupting vital processes for the organizations. That is specifically the issue: the social organizations interviewed, as some of the sectors that must face change or migration from licensed to free software, must upset the least possible their everyday operations and at the same time obtain economical and technical advantages from Free Software. This often delays deciding to switch, although decision-makers are convinced of the technical and political advantage of the tool. Many times, what defines making the decision is based on pressure mechanisms or practical needs (or even updating budgets).

Many of the interviewed organizations have faced this process: internal and external requirements imposed the need to switch to Free Software, not only for what it stands for but because of the practical advantages perceived.

Bridging with the Free Software World

According to the information obtained in the region, for an organization to adopt or develop Free Software it must come close to the community networks. The ways in which this contact develops are diverse, but during the research it became evident there is a key element: people "bridging" either from within the Free Software community or within the organizations themselves bring out the subject and actively dedicate to promote it.

In practical terms, the arrival of Free Software is often mediated by connectivity possibilities. If in fact software can be found in space outside the web, it is true that it's the communities of Free Software who through the Internet offer the most answers to conflicts that could appear when implementing it. Information in general is available and often replaces possible support providers frequently regarded by users as inefficient.

From a less technical point of view, many members of the interviewed organizations participate in communities and networks that encourage joining the "movement",

beyond the possibilities of practical use of their organizations or support requirements.

Relationships established between social organizations in the region and networks with a technical profile, often produce additional efforts. One of the most frequently heard critics towards Free Software networks is precisely the lack of interest or capability to communicate outside their own groups. Anyhow, those interviewed assure that there are other relationships that bring positive consequences in their work as organizations.

On occasions, technically-based networks pursue creating links to relate with other sectors. Through technical work initially, many people from the community start becoming qualified in ambits that interest them beyond their topics, such as cooperative enterprises, community resources and many others.

Some of the inquired social organizations became influenced by the global contexts where their activities develop when it came to making decisions involving software incorporation, and this can influence the choice of a given tool. An example of this is the discussion on Free Software in the realm of the World Conference for the Information Society, a forum where several social organizations became aware of the matter of Free Software for the first time.

The Potential of the Technical Services' Cooperative Market

Both consulted groups: social organizations and Free Software groups, are seeing themselves as natural markets for cooperative services dealing with technology. Nevertheless, the natural alliance that is being discussed has not consolidated. According to them, the approach is slow but has lots of potential.

The lack of resources in software and hardware is a constant feature for the consulted organizations, especially software designed and adapted for the activities they pursue. The possibility of paying off equipment by using it for a longer time and with lighter software that satisfies their concrete needs, or with systems that use older machines such as outdated terminals (light clients) are an option that opens a different choice to constant updating and permanent consumption. Some of the people inquired saw great potential for solving small Free Software enterprises' sustainability problems and some problems of technical order in social organizations. This potential would be expressed in a commercial relationship based on non-dependence, collective creation, fair exchange and a fair payment for services.

Challenges Conflicts and Oppositions

According to the interviewed organizations, oppositions have to do with a possible loss of some capacities and the loss of productivity in their tasks, also with lack of time for incorporating

new findings and the lack of resources for training. A constant pressure for not leaving urgent needs of the target population unattended, makes it difficult to prioritize on the technology matters for their organizations.

In the cases inquired, the previous information gathering, training on new development tools and planning for switching to Free Software, are the most important factors to obtain positive results. Nevertheless, most problems and oppositions found upon adopting Free Software in social organizations (where users are not necessarily "advanced users"), are the same ones found when a licensed technological tool is introduced.

Part of the difficulties mentioned by the organizations themselves, is on how they became proficient in the use of a software tool. For instance, many of the users learned to "write letters", "prepare presentations" or "check e-mail", but did not learn independently from a specific software, so all these actions to fulfill a task are strongly related to a graphic environment of a determined software. New knowledge therefore consisted in understanding how a task such as surfing the Internet is not necessarily attached to the program one is accustomed to use.

Results and Sensed Social Impact

The interviews evidence two types of impact: the one that might be received by the target population and the one received within the organizations. In general, when dealing with social organizations with objectives that somehow contemplate ICTs problematic, and their use and appropriation, the impacts were perceived by the target population in a higher degree. Other sort of social organizations don't visualize a short-term social impact more direct than philosophical affinity, although they do obtain better results in security, stability and lower license costs.

Adopting Free Software generates transformations inside the organization, among them investing in the technical field (in terms of time and budget); which according to those interviewed rarely occurs for any other reason. Most of the organizations consulted don't offer training programs in Licensed Software to their staff; nonetheless, Free Software does require them to make that investment.

Outside the organizations, first impacts derived from changing software are just begging to be sensed, especially in those organizations where their mission is strongly related to ICTs. Nevertheless, adoption cases are recent and it is difficult to see changes that transfer the benefits of Free Software to the target population directly.

Approaches and Strategies facing Common Objectives

Inquired social organizations acknowledge in general just a part of the Free Software networks as a technically-based movement, with social interests

that through their philosophy be adopted as their own. These organizations seemed to know just parts of the networks, a group of users or several projects and through this perception categorized the whole Free Software "community".

According to investigative experiences in the different countries, some common grounds and differences intertwine within social organizations and the branch of the Free Software networks more oriented towards subjects such as digital inclusion and access to information in free formats. What some of the consulted social organizations share with some Free Software groups is the underlying idea of viewing knowledge as a social resource. There is the perception that freedom of knowledge and the possibility of exercising the right to a free communication are part of a common philosophy that becomes a motivation for change and for the perception of Free Software as a means for emancipation.

Conversations and interviews held with different social organizations in the region evidence that these are approaching Free Software not only because it solves a practical problem, but because they identify themselves with the model and have interest in its complementary points and working topics.

Free Software experiences in Government

Latin America and the Caribbean have had several experiences in implementing Free Software in different levels of Government. Some projects, such as that of the Brazilian Government, have reached notoriety given the magnitude of the enterprise that implies migrating one of the region's biggest Public Administration Systems almost completely (a more detailed study of the legal initiatives concerning FS in Government is attached to this research and was done by the Alfa-Redi Organization).

Behind Free Software initiatives in Government there are several motivations, ideas and people promoting them. As in the other sectors, arguments vary from practical and economical elements to political arguments supporting or objecting the free model. This section aims to explore some of the ideas gathered by the research team throughout the study.

Free Software use in Public Administration is one of the most developed discussions by communities in the region. There are precedent forums and great amount of material written about it. Therefore, it didn't seem necessary to gather a compendium of the initiatives, but to underline some opinions that weren't evident at the beginning of the research: the fact that this implementation is being done with or without public policies, the favorable or unfavorable conditions for this to happen, the perspectives on mandatory use of Free Software in Government, the strategies (some more successful than other), and the concern around the imminence of a second stage after implementation.

Decisions from "below" or "above"

The notorious cases of adoption and development of Free Software in Government, with their positive and/or negative consequences, are those in which decisions have been done in the highest stratums. Nevertheless, according to the information obtained in the interviews, it is not at this level that all the concerning decisions are being taken. The technical level of technology implementation in Government has acquired a position of power in terms of deciding what software and hardware are appropriate for Public Administration.

Among the cases where Free Software is assumed as national policy, the most outstanding to the date are Brazil and Venezuela. In both cases it was found by interviewing the actors in said countries that the political process to defend Free Software in Government was supported by the networks and community, and some leaders from within had an important role not only in taking the issue to the negotiation table, but also in encouraging a better understanding on the Free Software issue in the public sphere and giving it priority in the Government's technological agenda.

According to those interviewed, Municipalities and other autonomous organizations, which have an estimated limited budget for local use, are within the spaces where the decision of adopting Free Software becomes a good idea; activated through Free Software promoters' participation in their workplaces and houses. If indeed political support is acknowledged as necessary for doing so, it's true that reaching Municipalities, especially those in the heartland, has a greater overtake.

Technicians who are part of the Free Software community said they have possibilities of affecting technical levels and starting a transformation "from below", proving the functionality and operative qualities of the tool along with economy and security arguments, for example. According to them, although the political decision is not taken within hierarchic practical stratums, Free Software is being implemented practically, without a policy with regards to it being visible or explicit.

Favorable Conditions

Countries that have implemented policies "from above" regarding Free Software have their particularities. According to the people inquired, it is not suitable to say that the implementation of Free Software in Costa Rica's National Government (where organization levels in the community are still basic), can be compared to greater scale implementations in Brazil, where the community is highly organized and permeates into different layers of government.

Some people within the Free Software networks sense a stronger political approach to the subject that is more strongly based on context, where new actors and social movements are coming

closer to public administration from new perspectives that differ to those of traditional political groups.

According to the interviewed, a condition regarded as necessary for Free Software initiatives to bloom and develop in government, is the possibility of generating multi-sector networks involving all sectors, working under the communities´ models. These networks are vital for generating ideas, developing proposals and creating influence. Networks with diverse actors guarantee that it will be possible to implement efforts in support, training and administration for new users. According to the interviewed, institutional efforts have to be endorsed by the possibility of generating services (this very condition is mentioned in this research's section on conditions in the region for the use and development of Free Software).

For some of the interviewed, the implementation of a Free Software policy in an area of public administration is inserted within a general policy on ICTs that has to do not only with software, but with information management, public information and data protection policies, intellectual property, etc. Many times this more tolerant policy is still inexistent, thus the effort for implementing Free Software must be carried along with the effort to fill institutional gaps in other matters, which increases the difficulty and complexity of the process.

Perspectives on Enforced Application

In the semi-structured survey a question was included for better understanding the different perspectives on norms that some local and national governments are encouraging in terms of the mandatory use of Free Software in Public Administration.

In regards to the question of if a Law that promotes the use or development of Free Software in government is pertinent, diverse answers were found, many of which are related to the sector from where the interviewed positioned themselves to answer and with the processes that are being developed in their respective countries.

In general terms (excluding non Free Software based enterprises that promote new technological neutrality and minimum government intervention in the so called "Software Industry"), it was possible to identify two differentiated postures. On one hand, there are those who assure that a Law promoting enforced application would be self-defeating and generate rejection. This, because in the region, laws are often violated and also because many estimate that conscious adoption is the best means for real appropriation.

On the other hand, there are those who support Law incorporation. This group states a difference between "enforcement" and "unplanned", and that it is possible to put a migration into successful practice towards Free

Software in government. This must be done in an organized way and with the necessary conditions for maintaining the initiative through time beyond government terms, through creating consciousness in the process.

Where there is in fact an agreement is in the idea that governments must take into account public policies on acquisition over those services most needed, focusing on the good use of contributors´ money and the transparency in government actions, and the encouraging and development of technologies.

Successful Strategies

In the creation and implementation of Government policies around Free Software, some strategies have been more successful than others. Implementations have been varied and at different levels, and in general some characteristics that in broad terms have given good results stand out.

Planning and Progressive Migration

Essentially all those interviewed agreed on migrations being a complex planning process where not only factors as software and hardware intervene, but also including a financial and operative strategy that allows the necessary adjustments for using Free Software in a way that does not interrupt organizational processes. This does not exclude a detailed strategy on sensitizing all institutional levels, and as some the interviewed mention, generating an "information culture" that encourages collectiveness.

In the same way, those interviewed agreed that total migrations operate only in very specific cases. Normally they establish in several levels so they can progressively take the place of investments done on Licensed Software..

Training and Support

These detailed plans, adapted to each institution, have an essential component in training strategies and support that can respond to demands to avoid the interruption of vital functions. Many institutions begin by providing new training to their personnel that will implement the measures from technical levels.

In the section on the conditions of the region for Free Software appropriation, training and support are mentioned as conditions that allow successful implementation in all sectors. According to the interviewed, implementing training plans in Government (not only technically, but in management and administration) in order to deal with new technological solutions acquires different dimensions in terms of decision-making and bureaucratic processes.

Financing

The people interviewed affirm that Free Software implementation strategies cannot only be based in the will of the institutions. As any strategy for change and innovation in the area of

Information and Technology, the effort required to switch to Free Software demands an important investment for allowing executing agile, effective plans. Without this investment, the interviewed agree, cost cuts from licenses are surpassed when facing real costs for adapting hardware, training and providing support. Investment made on Free Software pays out, but not immediately.

This financing also means investing in the community and FS networks, when resources are directed to companies that provide software adaptation, training and support, and personalized solutions.

Results of Investing in the Community

In a short to medium term, some experiences on implementation begin to evidence results that encourage the consulted institutions to expand their plans towards Free Software or to restate their strategies according to challenges.

An initial aspect is improving technical quality itself, the possibility of accessing the code and changing it means a qualitative leap for many of those interviewed. Also, cost related benefits also start becoming evident in the implementation.

Brazil is the country in the region with more extensive experience in the implementation of Free Software in Public Administration. Venezuela is starting a massive and ambitious migration program on Government, and countries as Argentina and Chile have some well-developed strategies. Each country has different levels of relationship with the community and the local Free Software networks.

After creating a strategy, the application in different levels and the struggles for implementing change, governments and institutions face other issues that lead them to keep up with the progress that has been made and the invested resources. Those interviewed from different sectors indicated the challenge of evidencing a success through factors such as cost cutting, flexibility and security, to enter a second stage where, more than saving, Government must start investing back in the Free Software community to ensure innovation and sustainability of the systems.

COMPLEMENTARY ANALYSIS

As part of the process to obtain results, the research team carried on an extensive analysis of data regarding the variables and sub-variables established in the Big Chart. This analysis resulted in the document "Final Research Report", an extensive document elaborated March 2006.

A first draft of this document (available in the CD attached to this publication) was sent to five leading persons in the Free Software community of the region.

Also, the document was read and commented on by the research team and some counterparts. Comments, criticism, observations and corrections of the first version were numerous and important, and are incorporated to the extent of our possibilities into the attached version.

From the reading of this first draft, the authors elaborated a short article with their most important considerations, concerns, perspectives and proposals regarding matters on Free Software for their countries and the region in general. We consider that both critics and dissents, as well as common points are valuable to understand the complex panorama of Free Software in Latin America.

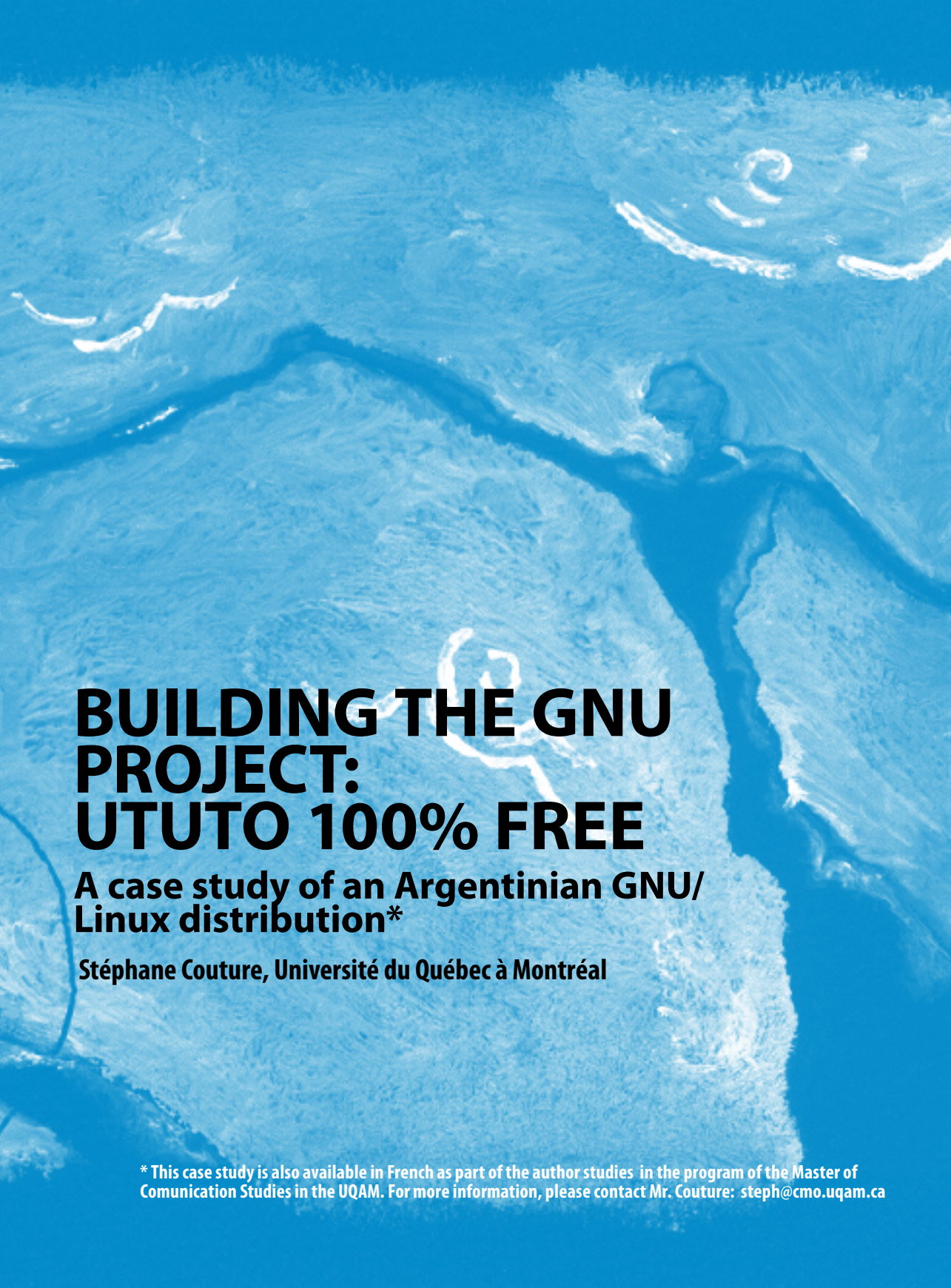
Stephane Couture presents a case study on UTUTO-e, Latin American distributor for GNU/Linux. Stephan is part of the Koubmit workers´ collective and is obtaining a Masters degree in Communication at the University of Quebec at Montreal (UQAM).

Beatriz Busaniche does a critical analysis on the conclusions of the investigation, and proposes a different vision of the Free Software community, from other referents or actors. Beatriz is part of the Vía Libre Foundation and works in commitment with the Free Software Foundation of Latin America (FSLLA).

Diego Saravia from Salta University and founder of the UTUTO Project in Argentina, makes a comment on the issue of Free Software, framed in a broader debate on freedom of knowledge and its relationship with fundamental matters for the region.

José Luis Chiquete, president of the Mexican Free Software Association (AMESOL), presents an outlook on Free Software networks in Mexico, especially in their relationship to private enterprises.

Mario Teza, one of the leaders of Proyecto Software Libre in Brazil and one of the ideologists of the Free Software community in that country makes a comment on the role of community in the Free Software ecosystem. Mario Teza´s text has been used as a preface for this publication.



BUILDING THE GNU PROJECT: UTUTO 100% FREE

A case study of an Argentinian GNU/ Linux distribution*

Stéphane Couture, Université du Québec à Montréal

* This case study is also available in French as part of the author studies in the program of the Master of Comunication Studies in the UQAM. For more information, please contact Mr. Couture: steph@cmo.uqam.ca

Introduction

This case study constitutes one of two case studies done in the context of a research conducted by the Latin America and Caribbean Office of Bellanet. The research had 3 initial objectives: to identify key actors working on the issue of FLOSS in the region, to extract the lessons learned and experiences of different sectors (government, civil society, academic sector, private enterprise) and to create a common agenda with common interests and fundamental needs of these actors.

This case study describes Ututo, the first GNU/Linux distribution still recognized by the Free Software Foundation as totally free, and the first Argentinian distribution. Ututo plays an important symbolic role in Latin America and many of the important actors of free software in this region are involved in the project.

The theoretical approach of this work tries to mix the constructivist approach in the study of technologies with a more critical perspective. While the constructivist approach in technology challenges the autonomy and neutrality of technology, the critical approach searches for possible alternatives to existing social situations.

On the methodological side, this work is mainly based on the analysis of six interviews made with actors involved with Ututo in different perspectives: developers, contributors, business partners, users. I further enriched my data with an ethnographic observation made both online and during some events in which Ututo members were participating. Finally, I analyzed the web site of the project and familiarized myself with the Ututo system.

After presenting a brief introduction to the theoretical approach used in the context of this work, this paper will be divided in fours parts. On the first part, I will describe the historical development of Ututo with a focus on the alliances that were made in the making of the project. On the second part, I will expose the organizational structure of the team as well as the financial mechanisms. The third part will explore the way actors involved with Ututo are seeing their action as a political action. Finally, the last part of the text will expose different lines of work that the members consider important to put efforts in the future of Ututo.

I hope that this work can provide the reader with a better understanding of Ututo and the dynamics of free software communities.

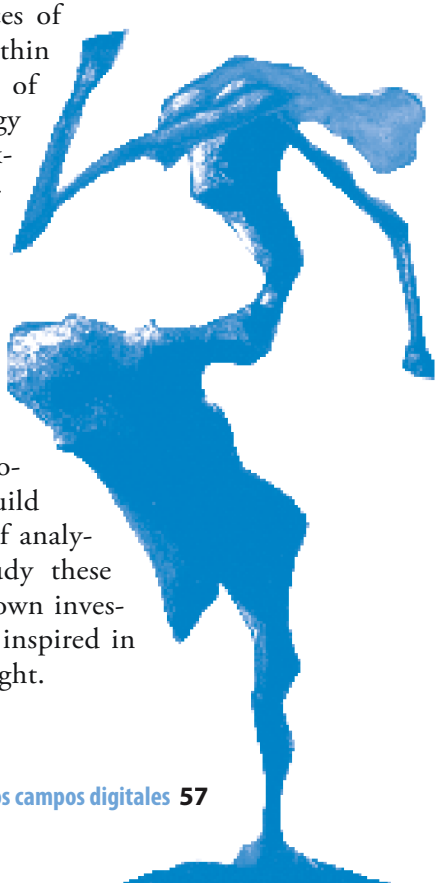
A socio-technical approach in the study of technology

The weakness of technology

A significant division of labor in our societies has separated the ones who create science and technologies with the ones who use them. Those who create technologies are engineers and scientists, those who try to make social choices about their use are people

from humanities and social sciences. This disciplinary division in our universities between "exact sciences" and "social sciences" is significant in the division of this labor. In "exact science" programs, such as computer engineering, one finds only very little "social" teaching which could bring the student to develop a critical thinking about the technical activity he is doing. On the other side, a good number of students of social sciences and humanities only have vague and elementary notions of computer science even if they spend their entire working life in front of a computer screen. This division of labor is significant of a deeper ontological division between social life and technical rationality and is to be taken seriously into account for its roots in the definition of modernity. For thinkers of modernity such as Weber, what distinguishes modern technologies from pre-modern technologies (such as artisans) is the fact that modern technical development is somewhat autonomous and dictated by a universal rationality which is separated from the irrationality of social and cultural life. This separation between social life and technical rationality was largely exacerbated following the Second World War by a wind of technological determinism within the "humanities" disciplines. Technology either was celebrated for its capacity "to modernize us", or blamed for the cultural crisis and the fact that reason was getting irrational (Horkheimer, 1947). Technology, whether it was celebrated or blamed, preserved an autonomous dynamic, separated from the social life which it was invading more and more (Ellul, 1964).

In his philosophy of techniques, the french philosopher Gilbert Simondon wondered about this weakness of the contemporary culture regarding techniques, weakness which for him, was rooted in this modern ontological distinction made between social life and technique (Simondon, 1969) but also in the ignorance of the way technologies were built. To go beyond this weakness, Simondon affirms that the culture must become aware of the human reality which lies in technical reality; technology must be regarded as the other cultural aspect of being in the world. One can find today traces of Simondon's ideas within significant currents of thought in sociology which seeks to explore the close relationships between culture and society on one side and science and technology on the other side. Several researchers took as a starting point these ideas to build a new framework of analysis allowing to study these relationships. My own investigation is strongly inspired in this current of thought.



A constructivist approach

The constructivist perspective in the study of technology is an alternative which makes it possible to overcome this separation between technique and society. This approach postulates that there is a dynamic, unstable and permanent connection between the extremes of technology and social environment. Any technical object carries the prints of social and power relations which underlie it and, at the same time, the technical dimension crosses more and more onto social forms (Proulx, 2000). The notion of sociotechnical is used in this approach to emphasize that the world cannot be understood solely from a social point of view, or solely from a technological point of view. It should instead be approached from different perspectives: technology or social is never "just" technical or "just" social.

Actor-network theory (ANT), mostly developed by the french researchers Bruno Latour and Michel Callon falls under this constructivist approach and offers a theoretical and methodological framework adapted to seize the interrelation of society and technology. Tuomi has later used ANT to describe the development of the Linux kernel (Tuomi, 2001). In this approach, technology is not apprehended as a block box "thrown" in the society. It is on the contrary in the process of construction of the technical object, starting from the statement of the project, that this model studies. The activity of innovation and technological development is collective and progressive here: the technical object is not developed solely by autonomous rationality, but it is rather modeled according to power relationships between the actors. On the methodological level, these researchers postulate that it is during sociotechnical controversies, at the moment of their construction, that the technical devices are clear to the study by the anthropologist or the sociologist (Callon, 1986). When the debates are closed, the object becomes a black box which cannot be analyzed any more. In a text entitled "The prince for machines as well for machinations", Latour uses Machiavel's concepts to demonstrate the political importance of understanding how the social and the technical are defined through the same strategies:

> "If science and techniques are politics pursued by other means, then the only way to pursue democracy is to get inside science and technology, that is, to penetrate where society and science are simultaneously defined through the same strategies. This is where the new Princes stand. This is where we should stand if the Prince is to be more than a few individuals, if it is to be called 'the People'." (Latour,1988).

Similarly, Andrew Feenberg developed a critical theory of technology inspired by this constructivist approach and by the work of Francfort's school. He criticizes the neutrality and autonomy of technology from the social sphere: " Modern technology is no more neutral than medieval cathedrals or The Great

Wall of China; it embodies the values of a particular industrial civilization and especially of its elites, which rest their claims of hegemony on technical mastery " (Feenberg, 2004). By posing the technology as a cultural and social construction, Feenberg points out the need to develop a cultural critic of technology.

The development of free software, and specifically Ututo, appears to me to be a good space to study situations where the technical and the social sphere are defined simultaneously. My objective in the context of this research is to seize situations of hybridization between technical and social spheres. I hope, in this work, to contribute to a better understanding of the social nature of technology and the extent to which technological choice, even small ones, mask the reality of social choices which are sometimes of crucial importance.

Historical perspective

Ututo and Ututo-R

The first version of Ututo was created in 2000 by Diego Saravia of the Universidad de la Salta, in Argentina. It was one of the first "live" systems to function starting from a CD-ROM. Its purpose was to make it possible to the students to use at home some solar energy simulation software then only working on Unix workstations. This version of Ututo was more a mix of various free softwares than a fully compiled, autonomous distribution. Its maintenance ceased a little afterwards with the apparition of other " Live " systems such as Knoppix.

Some people later took back the development of Ututo to make a router and named it Ututo-R. Unlike the first version, all the software was now free and compiled. This system has been used by many schools in the city of Buenos Aires to prevent children from viewing websites that could negatively influence them. The choice to use Ututo-R was initially justified financially, by the savings brought by not paying license fees when using free software.

Solar 2.0: to make old computers work

In parallel to these initiatives and during the same period, many free software activists were starting to organize themselves for the promotion of free software both on the technical and social perspective. SOLAR (SOftware Libre ARgentina), originally named organisarnos, a civil association whose activities are mainly based in Buenos Aires, and ASLE (Field for Free Software in the State) a similar support group acting from inside the Argentinian state, played an important role in the development of Ututo.

In January 2004, ASLE approached the members of SOLAR in order to create a free desktop workstation which could work on the very diverse types of computers owned by the State, some of which had weak hardware capacity. The idea was that the State would develop its own computer system and thus be more independent from software suppliers. The objective of both groups was to encourage the use of free software within the Argentinian administration.

Two developers of Buenos Aires, Daniel Olivera and Pablo di Napoli accepted the challenge and developed a desktop named ASLE-Solar which included the four basic office applications: navigator, text processing, spreadsheets and email client. After a few months, the development unfortunately stopped and the idea got lost.

After this experience, Olivera and di Napoli decided to create their own GNU/Linux distribution, which they initially named Solar 2.0. Taking up the ideas of ASLE-Solar, the objective was to build a user friendly computer system which was able to work on different types of computers, especially old ones. But instead of using low resource applications, it would be done in some distribution such as Debian-NP or Dyne:Bolic, the strategy here was to provide different sets of binaries specifically optimized for many different hardware architectures. Technically, this new distribution was a precompiled distribution of Gentoo, an older GNU/Linux distribution. The idea behind Solar 2.0 was to make a strong distribution from a technical point of view, but to facilitate its use by the common users, and to give it a strong political dimension:

"I always saw a lot of advantages in Gentoo from a technical point of view but a lot of disadvantages from the free software point of view. To Gentoo free software is not of direct interest. It allows anything, if it can run the Windows kernel it will. They don't care about free software. The only things they have are technical merits. You can join this great technical merit I always thought I needed to a clear political position and good technical development. "

"So my idea was to join a strong political position I enjoyed with a technical position that could rival other systems, especially with Windows. I said that I wasn't going to convince a user to speak of freedom if we didn't technically support it. The user may be convinced, but we have to support it so the user can have a strong conviction.."

Ututo-e 100% free

Diego Saravia, who created the first version of Ututo had also been engaged for several years in promoting free software on a more political level. The work done on Solar 2.0, especially its political dimension, drew his attention and brought him to propose the renaming of the new distribution from Solar to Ututo. This pact made it possible for the new distribution to benefit from the recognition already acquired by Ututo and the social capital of its creator. After Ututo and Ututo-R, the new distribution was named Ututo-e (e for escritorio, the Spanish term for desktop).

Another alliance of the same type occurred in 2004, this time with the Free Software Foundation (FSF). There has always been controversies around the presence of non-free software, such as Netscape or StarOffice, within GNU/Linux distributions like Ututo. The

project to carry out a distribution which would contain only free softwares existed since the first version of the distribution but was made reality in Ututo-R. It became a policy in Ututo-e. This policy dictates that only free software should be included in the distribution and that there should not be any repository of non-free software provided by the project, as it is the case in Debian.

This policy adopted by Ututo team brought Richard Stallman to recognize Ututo-e as a completely free software distribution. Ututo arrived at a good moment because the leader of the free software movement had an urgent need for a completely free distribution to recommend at the time of his multiple interventions. This alliance was also obviously beneficial for Ututo for two reasons: first, on the promotion level, it helped increase its users and contributors base. Second, because the FSF decided to bring material support to the team by providing a server dedicated for downloading and by financing the connectivity at the residence of Daniel Olivera, the main actor of the project. Finally, it gave a strong identity and political dimension to the project, dimension that will however require further commitment and additional technical work.

Today, the Ututo-e distribution can be defined by four characteristics: it is a completely free distribution; it works on various types of computers, including old ones; it is a computer system designed for the common user. Finally, an important dimension in the local context: it is the first Argentinian distribution.

Internal organization and project sustainability

Core team and contributors

The renaming of Solar 2.0 to Ututo and after this, the support given by Richard Stallman and the Free Software Foundation quickly made Ututo known in the Argentinian community of free software and led many people to adhere to the project. In June 2005, forty two people were registered on the main mailing list of Ututo. To organize effectively the collaboration and the decision process, an organizational division, rather common in free software communities, was created between the core team, which includes the most active people in the project, and the contributors, which includes the people little or not active.

At the time of writing, about twenty people were part of the core team. Although this is mostly an indicative rule, a six month period as an active contributor is necessary before being allowed within the core team. This adhesion must also be proposed by another member and accepted by the whole of the core team. The most significant privilege to this group is the right to vote in the case of litigious issues or when new members are accepted in the core team. Also, only the members of the core team are entitled to represent Ututo officially, situation which has been problematic in the past when there was

a need for representation far from Buenos Aires.

In the case of litigious debates which cannot be solved by consensus, any member of the core team can ask for a vote. The controversies are generally related to political alliances with other associations, more than purely technical decisions. Following the call for a vote (for resolving controversies or accepting new members), a one week deadline is granted to discuss or require more explanations. All comments and interventions have to be made on the web site in order to keep archives of the discussions around the decisions. Although this is the procedure recognized officially, in practice most of the decisions, especially the technical ones, are made on a merit-basis, the lead developer usually having the last word.

Any person who requests it is generally recognized as a contributor to the project. The contributors can execute all tasks, except of course those related to decision making and representation that are restricted to the core team, as described previously. Although about thirty contributors are officially registered on the list, less than ten seem really active.

The list ututo-e@ututo.org (now ututo@mail.inenco.net) constitutes the main communication channel for the project. Other lists also exist for more specific tasks, for instance about the compilation process, or the new Radio-Ututo. In periphery of this list, various online tools are also used. The Ututo website facilitates the discussion for the users, but also includes more restricted functionalities to enable voting. A wiki is also used by the team to carry out outlines of projects or to comment on already existing functionalities.

Financing

Some expenses are assumed by organizations which financially support the project. The Free Software Foundation for instance pays for the cost of connectivity at the residence of Daniel Olivera, the leader of the project. As it is often the case in free software communities, many institutions around the world contribute to the project by setting "mirror servers" for downloading the distribution. At the time of writing there were nine such servers online for Ututo. Other money contributions are also made by private individuals, or groups like Free Software Foundation or Hipatia.

Most of the work within Ututo is carried out on a voluntary basis. The leader of the project currently dedicates himself voluntarily and full-time to the project: "A lot of my time is required. In fact, I dedicate some 16 hours a day to this. Not every day though, there are some days that I go out, but on the days that I work, I do so for 16 hours developing for Ututo."

In an article on the role of women in technological development, Wajcman notes the tendency of socio-technical studies (like this one) to stick to the visible actors and to neglect those who are less visible in a network (Wajcman, 2002).

Taking her criticism into account, we would like to highlight here the personal investment of the people working in Ututo, as well as the indirect but still significant contribution made by their close relatives in the development of the software. One respondent mentioned that all his children are doing their homework using Ututo, thus playing more or less the role of a software tester.

The political dimension of Ututo

Callon and Latour postulate that categories such as political and technical are not made up a priori. The stakes of socio-technical debates are above all in the redefinition, by the actors, of concepts such as social, technical or political. When the debates become purely technical, they are already closed: "the controversies become really technical only when the power relationships between the actors and the names of the possible winners are known" (Callon, 1981). Taking this point of view, I will assume that the actors really take part in the creation of the categories they mention. I will then try to highlight here the moments in which the actors themselves define their activities as being political.

Why free software?

The social relevance granted to free software by people interviewed can be situated between two poles: accessibility and technological control.

Free software constitutes a way to cut the digital gap between the countries because all its users can have access to a system without paying exorbitant costs or being in a situation of illegality. In the same way, in the specific case of Ututo, accessibility also relates to the possibility of using old machines, consequently, to make use of a modern operating system, without necessarily paying for expensive hardware.

Several other arguments go in the direction of a better control of technology. Free Software is seen as the way to allow the end-user to control in a better way his technology, and to liberate him from monopolistic control. More specifically, the use of software covered by the General Public license (GPL) guarantees that it won't later be " closed " by the corporation who created it. For the user of Ututo, free software constitutes an alternative to dominating computer systems, and its construction is a way of liberating the cyberspac:

> *"I believe it is an alternative system and movement to those privative systems, which tries to generate cyber-space freedom, this, as an alternative to the only one known worldwide which is Microsoft".*

Getting involved in Ututo

It is a thing to use or even develop the GNU/Linux system, it is another to give an ethical or political dimension to this activity. Adhesion to the idea of freedom of software, as defined by the Free Software Foundation, seems clear to all the members

of Ututo. What brings people to involve themselves in Ututo and, in a more general way, to politicize their technical activities?

It seems that we can draw a general conclusion that the majority of people involved in Ututo initially used Linux or other Unix-like systems for technical reasons first and later got interested more specifically in the political dimension of Free Software. Someone mentioned the use free software like emacs, ftpmail and gcc well before his first contact with Linux in 1993. In the same way, another respondent mentioned the approach to free software from a political point of view only after a few years of using and developing GNU/Linux.

The organizations whose mission is to promote free software both from a technical and a sociopolitical point of view play a significant role in the involvement of the people in Ututo. A respondent mentions that his first political activity related to free software was in 2003, by the intermediary of SOLAR. Hipatia is another organization, very active on the political level, which brought people to get involved in Ututo.

Several people mentioned their affinity with a more progressive political position:

"Yes, there was a political background from my side, because I am a marxist, left-winged. There's a certain question that has to do with freedom."

"I am of an open left-wing thought, and various people involved in the Linux World, not only in software, but in Linux in general, I know are too. "

"Well, I was in a political party, I am the national founder of a central left-winged party, so yes, politics have always interested me."

On the other hand, most of respondents point out that free software is not something necessarily progressive: *" To tell you the truth, the GNU is not related to the traditional political issue itself. A lot of people have a tendency towards this ideology. Now, from my point of view, it's something of a coincidence that these people have these ideologies and that they choose this software"*. If the politics of free software is not something primarily progressive, it seems that people interviewed identify themselves to this ideological tendency, which probably contributes to their " technical politization".

Using Ututo

The case of the implementation of Ututo within Consejo Deliberante of Moron, a municipality located in periphery of Buenos Aires, also shows similar characteristics, but on a more collective level. Following the election of a new administration for the deliberating council, a whole process of computerization was put in place and it was decided to use free software, initially Red Hat, then Ututo. If the choice to use free software rather than proprietary software was before everything an economical choice, it is interesting to note that it was taken by a rather progressive administration in the context of a policy of greater citizen participation in municipality affairs.

In addition, even if the choice of Utu-

to was initially based on an economical issue, the political dimension of free software grows with its use. A worker of the Consejo Deliberante of Moron described free software in this way:

> *" I think it is a system and an alternative movement to the privative systems, that tries to generate liberty within cyberspace, this as an alternative to the only one known worldwide which is Microsoft. It seems to me that in Argentina everything is very Microsoft. It is an alternative, a different proposal that seeks to open the network to other cheaper, more accesible and freer systems. "*

In addition, a press release emitted by Consejo Deliberante finishes as follow:

> *" The current software - Ututo-e – which the Concejo Deliberante de Morón uses is recommended by the Northamerican programmer and maximum exponent in the free software revolution, Richard Matthew Stallman. "*

We can thus raise some interesting aspects to describe this process where users and developers give a political dimension to free software through their relationship with Ututo: the contact with free software was not initially done under an ethical or political angle but people interviewed were already politicized and generally hold progressive positions. It should also be noted that several of the developers got involved in Ututo through organizations such as Solar or Hipatia, which focus on the social and political aspects of free software.

Politics and technology inside free software

The ethical and political aspect is at the base of all the technical work of the project. The central idea of Ututo is to carry out a 100% free distribution, but which can, in use, constitute a concrete alternative to systems like MS-Windows: to convince a user to adopt a free software, it is not enough to speak to him or her about freedom but also that free software can be used effectively, then to integrate the user in the network of Ututo and then into free software. In a symmetric way, to make people aware of the ethical aspects of the project, it is not enough to give them a free computer system, but it is also necessary that the ethical dimension be strongly inscribed in the technical object and all aspects of its development:

> *"The most important part is that there be a political background, and knowing why a system hardly used is chosen. And only when you are convinced, can you convince others. So, my idea was to join a strong political position with a technical position that could rival other systems, especially Windows."*

For many, the main social contribution of Ututo is to ensure the existence of a completely free software system. Ututo acts here as a symbol of the success of the idea of free software: *" I relieve that the main contribution of Ututo is that it be the free software that will be recognized this way"*.

The political activity of these actors thus

consists in developing a free computer system that is easy enough to use by the common user. The political activity here is embedded in the technical activity, and each technical micro-decision as well as the resulting technologies are tinted from this normative perspective.

The integration of OpenOffice in the distribution is a good example of this amalgalm between political and technical aspects. This software uses the Java interpreter for some of its tasks although Java is not a free software. It was thus necessary to carry out some operations to initially separate Java from OpenOffice and then to integrate the software in the distribution. The next version of OpenOffice is however problematic since it integrates Java much more largely in its implementation. It will thus be very difficult to keep a free version of OpenOffice in Ututo unless a lot of work is put into it. Determination to remain free remains strong, as one of the members of the team affirms it: "OpenOffice will be left out until an interpreter exists that can create free access without a doubt." This choice to remove OpenOffice from Ututo is therefore not technically justified. It is about a technical choice motivated by dimensions which go beyond the technical sphere.

The politics of free software also inspire other technical choices, but in a more subtle way. In order to facilitate the update of the system, a member of the team developed software which offers a graphical interface to install new packages. To complete this work, the developer chose to use the " bash " language, which can be directly read by the computer without being translated in binary, unlike a compliable language such as C or C++. This choice is before everything justified by the fact that this way of programming, which does not separate the source code from the computer code, appears more "free":

> *"What I like best is to work with script because it gives me a feeling of being freer, because one can know just by looking at the text, know how the programme one is using works"*

The inscription of the values of free software in the technical device

The concepts of inscription and affordance allow us to explain how the values of free software are inscripted in the Ututo distribution. The concept of " inscription " was introduced by Madelaine Akkrish to show where the technical object was "inscribed" in the practice: in the body of the user by the recourse to intermediaries (instructions, instruments, appendixes, socialized forms of training). (Akkrish 1993, Millerand 1998). To center the attention on the material aspect of the object rather than the symbolic system of use surrounding it, Bardini, using cognitive psychology, proposes to replace this notion of inscription by the one of affordance, a property of the objects or a property of the immediate environment which indicates how one can interact with the technical object (Bardini, 1996). Two

Definition – Proyect Ututo-e

1. UTUTO-e is and always will be a project in the GNU philosophy frame.
2. UTUTO-e and all developments are distributed only and exclusively under the GPL-2 license and the contents of the site and documents are under the FDL license, both in agreement to the GNU Proyect.
3. UTUTO-e is and will be a project based on community work. It does not aspire to become an enterprise or institution or depend on a single person.
4. All project decisions must be voted on by its members. The majority's vote will always be the path to follow for the project and its members.
5. Any member not willing to vote, will accept by omission the majority's verdict, giving up on any right to make a claim.
6. New members must be introduced by active members of the project, who will evaluate the member before the rest of the Ututo-e community. Those who approach the project will have to remain from six to twelve months before his or her admission as a member can be voted on, which will be evaluated as merit and compromise based.
7. The admittance of new members must count on all members' approval. The options YES and NO indicate "agree" or "not agree" to the membership. The third choice is DENIAL, which means an active member is conditioning his or her remain in the Ututo-e project with the admittance of the new member. The existence of one single vote in this position, cancels the voting and the admittance of the aspiring member.
8. The exclusion of a member must be presented by another member and voted on by the community. Membership is voluntary, as is withdrawal.
9. UTUTO-e may only contain software packages that are GPL or Licenses that express the possibility of practicing the four free software freedoms expressed by the GNU Project.
10. All packages in UTUTO-e must guarantee the four freedoms expressed in the GPL License and the GNU project in any of its versions.

elements appear interesting to look at to understand this inscription of the value of free software in Ututo: the instructions on the web site, and the installation of Ututo.

On the Web site, one can find ten rules defining the Ututo project (see next page). It can be noticed that four of these rules define the adhesion to the GNU project and the philosophy of Richard Stallman, his founder. The other rules define the non-commercial and democratic character of the project. By publicly exposing the rules of adhesion and operation of the project, Ututo also breaks with the usually closed character of the technical device and offers to the public the image of a network of innovators united on a democratic basis.

The installation of Ututo is also rich with references to the politics of free software. Contrary to many distributions, one does not install Linux here, but the GNU (Ututo XS GNU System). After indicating that all the parts of the system are distributed under the GPL license one finds in each page of installation many references to the GNU project.

Another symbolic reference to the policy of Richard Stallman is this time inscribed in the default configuration of the system: the default "root" password is "enter" (it is specified in the installation process: "enter " is the word and not the key). Stallman, then employed at MIT, was asked to put passwords to protect the access to the computers. To remain faithful to its policy of free access to computers, while respecting the order of his superiors, he chose the password "enter" to do so. The choice of this same default password, for Ututo, is a direct reference to this moment of the life of Stallman. The highly symbolic nature of this small decision is another example of a small technical choice that goes beyond the solely technical sphere.

Challenge and future of the project

Based on the interviews we made in June 2005, we will try to emphasis some axis of future work on both a technical and social level.

Technical perspective

One of the broad objectives of Ututo is to offer a system that can be used with older and less powerful computers but that it is also as easy to use as the more widely adopted systems. A lot of work has already been done in facilitating the installation of the system, in particular by the creation of a more convivial graphic interface for the installation. But usability remains a weak point, not only for Ututo but for all the Linux systems. Not surprisingly, the majority of the respondents affirm that most of the technical efforts should be put in usage issues. For instance, work still needs to be done to allow the user or the network administrator to manage easily and in an intuitive matter the computer system. Simple image details, such as the default colors for the buttons or the introduction splash page must be thought ade-

quately. A user that we interviewed also mentioned the need for ensuring a better compatibility with proprietary formats, although this obviously exceeds the work strictly connected to the development of the Ututo project.

It is important to note that the team has its own process of getting comments from the users, comments that are then integrated in the following distribution.

Social perspective

At the time of writing, all of Ututo development was made on a volunteer basis, although the costs of the material infrastructure were assumed by partners such as the FSF and local enterprises. For the majority of the respondents, the financial viability of Ututo is one of the biggest challenge the team is facing today: "Beyond the utopia of developing a completely free system, for reality it has to be sustainable, if we don't have resources to continue buying machines or whatever.". A better financial structure could make it possible for more than one person to dedicate him or herself full-time to the project for the support services related to the distribution.

From the point of view of Daniel Olivera, the project leader, a period of 5-6 years is to be expected before the project can really be viable. A possible path currently developed by a consortium of local business consist at creating an environment of projects and services in periphery of Ututo, which could, in turn, contribute in financing Ututo: "a group of businesses got together with the idea of starting to sell Ututo services to others. This would generate economic movement towards the project and we would take on a market where currently, only commercial businesses work." The strategy to start this economical movement would be to create a positive image of free software and Ututo by targeting some potential key customers and provide them an excellent support.

It is a collaboration with the government, by the creation of the desktop ASLE-Solar, which initiated the work on this version of Ututo but this first initiative from the Argentinian government didn't have any follow-up. However, it is important to state that some municipalities, Moron for instance, as well as some universities had adopted free software as part of their computer systems. Also, some governmental organizations already support Ututo by hosting some of their servers. But all this cannot be considered a large scale support and free software doesn't seem to be a very important issue for the Argentinian government today.

If the diffusion of free software and more specifically Ututo should go through a larger adoption by businesses, it should also be done through favorable politics towards free software within the government.

From the point of view of the actors in Ututo, a government support, a political decision in favor of free software would also be good for the adoption of Ututo. Many mention that the plan MI PC, aiming at equipping each child with a computer, as a good entry point for the diffusion of free software.

Conclusion

Apart from giving a comprehensive picture of the Ututo community, an interesting Latin-American free software community, my objective in the context of this research was to seize some situations of hybridization between the technical and the social sphere and to show how technological development, in the case here of free software, is strongly related to social and political dimensions. I first exposed, from an historical perspective, the history of Ututo by focusing on the different alliances that were made in the building of the software. The second section was more related to what we can call the "technique politicization". I tried to expose how the actors involved in Ututo are seeing their activity as being political and how small details of implementation are sometimes motivated by dimensions that are not purely technical. Finally, I tried to synthetize what the people interviewed consider to be the principal challenges in the development of Ututo and, more generally, of free software.

A postulate underlying this research is that information technologies are not neutral; they reflect, at least partly, the values of those who implement them. Ututo is an enlightening case in which the political dimension of building technology is fully assumed: the very act of developing software is seen by all the people interviewed as a political action, a way to transform society and technology. I hope, in this work, to have pointed out the necessity of looking at free software from the point of view of the people who create it and thus to contribute to a better understanding of the social nature of technological development.

Bibliography

AKRISH Madelaine (1993) " Les objets techniques et leurs utilisateurs. De la conception à l'action ", *Raisons Pratiques*, 4, pp. 35-57.

BARDINI Thierry (1996) " Changement et réseaux socio- techniques : De l'inscription à l'affordance ", *Réseaux*, 76, pp. 126-155.

CALLON Michel (1981) " Pour une sociologie des controverses technologiques " in *Fundamenta Scientiae*, vol. 2, no. 3-4, p. 381-399, 1981.

CALLON Michel (1986) " Éléments pour une sociologie de la traduction. La domestication des coquilles Saint-Jacques et des marins-pêcheurs dans la baie de Saint-Brieuc ", L'Année sociologique, n°36, P.U.F, Paris :, pp. 169-208.

ELLUL Jacques (1964) *The Technological Society*, J. Wilkinson, trans., Vintage, New York.

FEENBERG Andrew (1991) *Critical Theory of Technology*, Oxford University Press, New York.

HORKHEIMER Max et ADORNO T.W. (1947), *Dialectic of Enlightenment: Philosophical Fragments*, Stanford University Press, Standford, Californie, 2002.

GRANJON Fabien (2004) " De quelques éléments programmatiques pour une sociologie critique des usages sociaux des TIC ", *Les rapports société-technique du point de vue des sciences de l'Homme et de la société*, in Smaïl Hadj-Ali, éd., Rennes. http://archivesic.ccsd.cnrs.fr/sic_00001136.html

MILLERAND Florence (1998) " Usages des NTIC: les approches de la diffusion, de l'innovation et de l'appropriation ", C*ommposite*, vol. 98.1 et 99,1, 1998 et 1999. **http://commposite.org**

PROULX Serge (2000) "La construction sociale des objets informationnels: matériaux pour une ethnographie des usagers", conférence à l'Atelier Internet, École Normale Supérieure, Patris, 14 février 2000.

LATOUR Bruno (1988) *How to write " the prince " for machines as well as for machinations***.** http://www.ensmp.fr/~latour/articles/article/036.html

TUOMI Ilkka (2001) " Internet, Innovation and Open Source : Actors in the Network ", *First Monday,* vol. 6, n° 1. http://firstmonday.org/issues/issue6_1/tuomi/index.html.

WACJMAN Judy (2002) " La construction mutuelle des techniques et du genre : l'état des recherches en sociologie " in D. Chabaud-Rychter & D. Gardey, éds, *L'engendrement des choses. Des hommes, des femmes et des techniques*, Éditions des archives contemporaines, Paris, p. 51-70.

FREE SOFTWARE IN LATIN AMERICA

Socio-political Organization of the Community*

Beatriz Busaniche

* Some of the commentaries in this article are refered to the research report included on the CD.

INTRODUCTION AND WARNINGS

When Bellanet researcher Lena Zuñiga invited me to read the text for the research she has been carrying out for over two years and to write an article to go with it, I came across a challenge that I would have liked to solve in a different manner.

For starters, I would like to emphasize on the enormous effort done by the research team in pulling through a work that has, from its fundamental objectives, great ambitions.

However, it is here where I consider that the first problem presents itself. The proposal of the objectives is extremely broad for one workgroup to take on, even counting with the necessary resources to take on the proposed tasks. The main problem is that it is unclear, from the stating of the objectives, which variables are to be analyzed and this makes it even more difficult to translate this to precise indicators that allow the construction of knowledge. A work hypothesis is not specified, and the conceptual approach has loose ends that would require previous work themselves. Valid as example of these loose ends the statement that "FS is a technological alternative", which appears from the beginning in the general objectives.

On the other hand, leaving methodological overviews aside, when reading the draft that aims to describe the Latin American FS Community, I found more absences than presences and this triggered in me the need to look for some way of making up for that problem.

My first idea was to directly find the voices in the community that were absent from the work, but lack of time forced me to abort that plan. Nevertheless, I consider that by interviewing eight to ten actors from the South Cone, the profile of the absences could have been partially covered. Doing this would have meant to practically redo a part of the research work which I consider is not one of my roles in this instance.

So finally, I made the decision to write from my own experience in the community, as a FS activist, and dedicating this text to those who for many years have constituted and given life to the FS communities of Argentina and Uruguay, and particularly to the user groups, who are the main branch of our community.

Towards the end of this text, I will focus on the central problems, both methodological and conceptual, which I found in the Bellanet research.

But to begin with, I would like to present and introduce in the debate those greatly absent in the research.

The community

For those who are not in direct contact with FS, the very idea of something called "community" existing around informatics programs can seem like a fiction. However, along with the idea of "Freedom", the concept of "communi-

ty" is one of the driving forces of our movement. Using and building FS at a global level is anchored on two central concepts, *freedom* and *community*, as the axis of the movement's social structuring.

For those of us who belong to the FS community, it becomes difficult to imagine using and developing free informatics programs outside the concept of a community that shares a *worldvision*.

The *FS Community* is formed by enthusiasts who defend principles linked to the freedom of people adopting and using software and computers. In this moment in the history of the movement, with more than 20 years gone by since its birth, we can still observe that the community is formed mostly by informatics technicians, basically programmers, who understand the importance of fighting for FS in order to achieve a free society.

Nevertheless, little by little the faces in the community are changing, and different profiles that occupy spaces in tasks and actions, necessary for the growth and strengthening of the community (such as documenting, translating, political lobbying and communication) are being incorporated. Also school teachers from different levels and higher education scholars have incorporated, taking the message to their classrooms. Incorporation of people with important humanistic backgrounds such as journalists, sociologists, public relations experts, are also highly appreciated for covering the indispensable niche of spreading the community's principles.

The community is ceasing to be a group composed strictly by hackers, to take on into becoming a sort of social movement, characterized by a "geek" (1) profile, acting in both spaces reserved for technicians and social or political movements.

What is essential to emphasize in this community is its eminently political position, turning development and promotion of free programs into a sort of civil action that intends to build a society based on the principles of free access to digital era cultural techniques, software. Software is politics, and this community has not only built software tools, but basically a common cultural base with clear philosophic fundaments to defend a free computerized environment. This is why differentiating technicians from politicians is pointless.

Social Organization

Aside from programs, our community has built its own social action networks, forming a complex framework of relationships that provide body, shape and movement to the community.

Our primary unit of sociopolitical organization are LUG"s, or GLUG's (Linux Users Groups or Gnu/Linux Users Groups) some known today as FS User Groups, which is actually what they are.

A considerable part of these groups have chosen to keep their original acronyms,

but have changed their denominations to FS User Groups , in recognition of the vast diversity of free programs available, putting the concept of FS over the already popular name "Linux", which makes strict reference to the nucleus of some free operative systems. Also, these groups withhold people linked to other free branches, such as licensed BSD programs, which integrate naturally within the community of users.

It is customary that users' groups think globally and act locally. Most of these groups work under their own influence spheres.

What are these groups and how do they operate?

These groups are the product of a decentralized structure and the distribution of FS. GLUG's appear as a response to the needs of those, whether programmers or not, who become involved with this reality, Most of them take care of answering doubts and questions of those who have some kind of uneasiness regarding the use of FS, thus these movements become the main stem for the community's development.

It is inadmissible to discuss a FS community in the South Cone without looking into the organization of users' groups, to whom the movement owes the growth of the community during the last 10 years. For the FS movement to keep on growing, the proliferation and success of GLUG's is essential.

GLUG's take care of promoting the use of FS, given that our community is based precisely in this concept: if you find something that works, and works well, it is important to spread the news to other people, because the more people that use and promote, the greater the success of FS. A user satisfied with FS is a reproducer not only of the application, but also of the philosophy. Sharing and promoting are the premises on which all GLUG's are based. (2)

New FS users that come into contact with a GLUG have much more advantages than those who do it on their own. This is because one of GLUG's roles is to offer support to those who approach the community, hence creating a multiplying effect.

For this matter, it is also within GLUG's mission to promote education in the use of FS. It's not only about adopting and learning how to use applications, but above all about learning from a culture that is central to these movements. Our groups share norms, codes and principles which become distinctive ways of doing, creating and sharing. And example of this is the use of e-mail. Participation in GLUG's is often based in mailing list related activities, where one learns (often forcefully) to interact with peers in communication webs.

To become part of a GLUG it's not enough with taking the time to learn how to use and apply FS, but one must get involved with the community's collective codes, which are common and general to all user groups in the region. Similar codes are applied to a mailing

list from Cordoba, Argentina than to one in Havana, Cuba; and many user group members in every city concurrently participate in other lists, this way strengthening the cooperation within.

All of these matters make up the socialization philosophy in FS. One of the responsibilities of user groups is to try and get people to understand what it means to be a FS user. Socialization is precisely what makes a person become part of our community, understand our codes and participate in the camaraderie that characterizes our groups.

Camaraderie among user groups is one of the cornerstones for the growth of the community, the network that unites us in common objectives and the way that most of us "have fun" being part of the FS movement.

There are user groups by city, and even multiple groups in one same city, given that these type of organizations are also formed within spaces such as Schools and Universities and that there are no fixed rules in forming these groups. Where there's a group of enthusiasts, there is a potential group.

In Argentina and Uruguay, FS user groups have been the driving force for the development and dissemination of FS philosophy and our degree of joint articulation is high. In fact, user communities in Argentina and Uruguay have a long history of cooperative work.

Uruguay

Uruguay's User Group (3) (UyLug), turned 8 in 2005 and is one of the strongest groups in the Latin American Community. Historically, UyLug has been on of the biggest, most organized groups in the community, and became a model to follow by several groups born under the light of the impulse and work done by UyLug. Today, Uruguay has several user groups among which we find the Linux-Teros developers (4) (Salto), MicroLug (5) (San José), LinuxPay (6) (Paysandú), SaLug (7) (Salto), SanJoLug (San José), PanaLug (Canelones), Linux Arachan (8) (Melo), and of course UyLug, based in the city of Montevideo.

UyLug is one of the groups that has lobbied to promote the legislation for the use of open standards in Uruguay´s Public Administration, among other initiatives to increase the use of FS in Public Administration.

UyLug is also one of the promoters of the Regional FS Congregations, an event essentially for the community that is already in its fifth edition, which gathers FS users from all over Latin America. These gatherings have been regularly organized by user groups. The most recent one took place in Argentina on 2005 and was hosted by LugRo (GNU/Linux User Group from Rosario, Argentina).

Argentina

In Argentina there are plenty of FS user groups. The oldest ones go back to the 90´s decade and already have a course of

action that is both local and regional.

- CaFeLug (9) : The Federal Capital´s Free Software User Group is one of the most numerous in the country and is the driving force for different activities that are already regular gathering landmarks for our community. The annual CaFeConf (10) (formerly known as the CaFeLug Annual Conference) is one of the events that gathers FS activists from all over the country and neighboring countries. Featuring guests such as Roberto Di Cosmo or John "Maddog" Hall, CaFeConf´s have excelled in surpassing the average 1500 event assistance. In addition to CaFeConf, this group holds monthly and quarterly meetings to discuss disclosure and provide technical or philosophical consulting. This group is also responsible for La Tribu FM´s migration to FS, which is Buenos Aires´ most important community radio station, member of the Argentinean Forum of Community Radio Stations and a true cultural reference for counter information and alternative communication in the country.
- GrULiC (11): Cordoba City´s User Group is one of the most propelling actors in the regional community and has a history of working hand in hand with University ambits. GrULiC has one of the most popular mailing lists of the Latin American community for its technical and judicial standards. In addition, it is the hosting group for the Proposition Project. Proposition (12) is a strictly political project that has the objective of promoting the use of FS in Public Administration in our Latin American countries. When researching on Use of FS in Government, one could hardly ignore Proposition as a reference. The project has a mailing list and a website where years of work for legislative projects on Government's FS´ consulting, writing and promotion are centralized. This administrative project in GrULiC relies on the participation of numerous actors from the regional FS Community, although it is important to note that the main promoters for the project are based in Cordoba, and are also GrULiC members. GrULiC was born in 1999 and works in close relationship with the Via Libre Foundation which started in 2000.
- LugRo (13): The GNU/Linux User Group from Rosario is yet another of the historic groups in the local community. Its objective and manifestos are to promote FS, to spread the use of GNU/Linux, to investigate and broaden the knowledge on FS and to establish a library with material in informatics. LugRo works coordinately with NTA, New Technologies Association, which has become an NGO to manage activities related to FS in the city of Rosario. Among the Argentinean FS landmarks, stand the First Regional Congregations on Free Software, carried out by LugRo in 2000, which gathered 1500 people, an amazing number for the time and

became Richard M. Stallman´s first visit to the country. In a true example of spontaneous regional integration, UyLug continued the Regional Congregations for a period of three years, before LugRo again hosted the V Regional Congregation in 2005.

- LugLi: In the Argentinean coastline, specifically in the city of Santa Fe, we find an extremely active group called LugLi. According to their own definition it is "a group interested in the GNU/Linux operative system and in the GNU FS philosophy. The group is mainly constituted by members from the Santa Fe and Entre Rios Provinces, which communicate through a mailing list and comment on matters related to the GNU/Linux world".(14) LugLi carries out activities of encouragement and training and some of its members have made substantial contributions to the LuCAS project of free documentation in Spanish.(15) Several members of this group also take part in projects such as Gleducar and organizations such as the Via Libre Foundation.
- LUGMen(16) : Another user group with a high technical level and fluent participation in community activities is the one originated in the city of Mendoza. LUGMen does not stand for Linux Users Group of Mendoza, but for "LUGMen Uses GNU/Linux in Mendoza", a name defined recursively (typical of hackers) which satisfies the need for crediting the GNU project, creator of all the FS movement. They are an auto-organized community of hackers who share certain values, like the idea that technical knowledge must be spread and shared for it to have its maximum social utility and that there must exist a liberty not only for using software, but for learning from it, modifying it and sharing it.

There is a mailing list known as the "ring" (17), which gathers members from GLUG´s and serves as a link for joint activities, information distribution, and whatever is of interest to the coordinated work of these social units in community.

This brief introduction to a few user groups is far from being extensive. The projects mentioned are not the only ones or the most important, but just a simple example. Today there are dozens of groups like these in practically every city in the country. Many of these same groups work to form other similar groups in different ambits, especially Universities. CaFeLug is particularly active in promoting new groups.

Furthermore, FSUA (18), Free Software Users of Argentina, works as a supporting platform for groups in the country who need this. USLA is the heir to LugAr (19), one of the first user groups constituted in Argentina back in the 1990´s.

These are a good example to illustrate the FS community's functioning and organization. Its decentralized self-sufficient nature has caused most of the attempt to

"represent" the "community" as a whole to resoundingly fail, not being able to capture participation from the main actors from the mentioned groups.

Hence, User Groups are and will continue to be the vital unit of the community.

Many User Group members end up dedicating most of their workdays to community related work. This often becomes a problem, but also means an opportunity. A problem precisely because, as we mentioned, user groups are usually informal and volunteer based organizations from which people are not able to make a living. Opportunity because many of these actors who dedicate a great part of their time to the community later give birth to other kind of organizations, be it as NGO's for sociopolitical purposes, or as enterprises or work cooperatives where community groups come together to "live" off what they do.

It is common to find some of the actors in the movement constituting their own enterprises based in the FS business model. Enterprises such as Except (20) in Córdoba, Xtech (21) or Open Computing (22) in Buenos Aires, are a few examples of business initiatives from members of the community. Rosario's User Group elaborated a blank booking order to keep an updated database of enterprises that work in and with FS, indicating the community's interest for this kind of lucrative initiatives (23).

FS based enterprises are also an active part of the community. For users and developers to be able to preserve their long-term freedom it is important that FS continues to prove that it is a sustainable model for a community of users. In this manner, enterprises, cooperatives and small and medium size initiatives

based on FS are useful in the quest to find economically sustainable models for our community.

Even the fact that community members work for enterprises of a different nature is important for maintaining the transversal nature of FS as a support to the informatics webs in our societies.

It's also positive to achieve participation and support from big corporations that, in spite of having different objectives dragging them to the FS community, might provide interesting contributions be it financially, developing or promoting free applications or interacting with hardware manufacturers and encouraging them to provide free drivers for their devices, or at least the necessary documentation to write them.

Moreover, the community can also rely on some social organizations (NGO's) organized as such before their countries' authorities, which can be helpful for conducting activities that require judicial staff and formal structuring. The UyLug, ANT, Vía Libre or Solar cases serve as an example.

Political Action Means

In recent times FS has acquired great visibility and has become an attractive symbol for many social and political movements. This has helped spread the idea, but could also imply the risk of parting from the original spirit of the community and losing some of the independence with which we have been working until now.

It's worth pointing out that any attempt of incorporating the central concepts of traditional politics into the FS community, such as the idea of "representation", have fallen fast before the autarchic decentralized nature of user groups.

FS is beyond classic partisan political thought, and any attempt of incorporating the rules of political parties into the movement or to tie it to some tendency of this nature almost immediately generates reject from community members.

On the other hand, at a moment when many Governments are adopting FS and many political parties are using it as motto, we mustn't forget we have gotten here on our own community's merit, which feeds from the contribution of people from the whole political spectrum. FS's case is essentially political, but was never of a particular party, because no political party or political ideology had a part in the creation and divulging of our movement.

Furthermore, as we saw before, it is incorrect to separate political action groups from "technical" groups. To this we can add attempts of "giving a political character to the movement." Both are big mistakes that involve the risk of polarizing the community in a sense that is not shared by the majority of its members.

Our community faces serious political challenges ahead. Aside from staying independent and continuing to build in a socio-political manner, there are still several battle-fronts. With the growing popularity of computers, everyday the-

re is an increase in the number of new actors involved in decisions that directly affect FS.

As an example, actors that promote reducing the "digital gap" or fight for "digital inclusion", fashionable terms in the global political agenda, be it from the civil society or from the government, often appear to work in an opposite direction from that of the FS community, because many of these initiatives promote the use of privative tools and are even financed by private software companies. Facing this, user groups and organizations in the community are being very resistant, both from the political front and from everyday social work of creating awareness in social organizations that work with ICT's. The incursion of privative software into social organizations and the educational system is considerable and many of these organizations contribute to deepen it. Reversing this tendency is a big challenge for our community.

Realms such as the WOIP (World Organization of Intellectual Property), the WTO (World Trade Organization) or UNESCO have become real fields of action for our community's activists, who are there discussing and working to prevent agreements that affect people's liberty in using FS and computers.

There are plenty of legislative projects that could have direct effects on free computer users, from Free Commerce Treaties in their aspiration of unifying patent regimes in Latin America with the US, to DMCA type legislations that are slowly installing in our countries Parliaments. We need to urgently create consciousness regarding the importance of resisting DRM's and the use of "Traitor Computing", and in the meantime we must stop any attempt in establishing rules that allow copyright on software-applied ideas.

Equally, there is also community work for creating a judicial framework that encourages public administration in our countries to use FS and open standards; thus, the importance of projects such as Proposition. It's amazing that this type of legislation is more successful in the array of local governments than in a macro level. Municipalities such as Rosario, in Argentina, are a model to be followed regarding legislation and migration to FS. There, the actions of local community groups have been strategic and continue to be essential for the success of the experience.

Challenges and remaining tasks for adopting FS in LAC

The Latin American FS Community has some distinctive characteristics, for example, the fact that in our region the confusion between freedom and costless has not taken place –maybe due to the richness and beauty of our language- and Open Source tendencies have not penetrated either. In Latin America, FS is still called FS and will be called this for a long time.

But if in fact, some important projects on a global scale are being led by Latin Americans, the involvement of the region in the development of FS is still

low. This might be attributed to different reasons that differentiate us from the US and Europe.

Basically, access to computers and connectivity is still very limited and becomes difficult in many regions of our Continent. On the other hand, the rhythm of life is different and, in these latitudes, it seems harder to access the time-availability required for active involvement in big projects.

In spite of this, there are many Latin Americans working in FS, with an important level of international presence. Nevertheless, we still need to produce local means for solving certain problems.

Access to infrastructure in Latin America is still hard, and hardware costs often become a problem. A central matter in current discussions is the need for the community to develop free drivers for all available hardware. This is a problem we still haven't been able to overcome and that states the conflict of discarding certain hardware, investing a lot of resources in developing inverse engineering for designing free drivers, or using some packages that aren't free, which is offensive for FS supporters.

It is worth mentioning though, that even if challenges for our community in Latin America are still plenty, one of the main achievements we've had at a local level is the great degree of organization in our communities, the fact that we're experienced in network operations and in cooperation at a regional level. An example for this is Flisol (24), the Latin America Installation Festival, which in its 2005 and 2006 versions congregated user groups from 100 cities in 12 Latin American countries ranging from Mexico and Cuba, to Chile and Argentina.

SOME SPECIFIC NOTES ON THE BELLANET INVESTIGATION

On the Conceptual Aspects

In several sections of the text, particularly in the research's objectives and in the conceptual part, researchers state that "Free Software is a technological tool" (25) for Latin America and developing countries in general. On the other hand, the issue of the code's "common property" also appears repeatedly, or references to the misused "intellectual property" also appear.

We therefore find three important concepts that we should elucidate in one same direction: Free Software is not a "technological tool", but a legal alternative. The heart of the matter is adopting a model of licensing that respects the liberties defended by FS, with all the advantages and benefits this would mean for our region including social, economical and political advantages, plus technical benefits offered by the FS model.

On the other hand, in no way does FS structure under the model of "common property", because FS is based in authorship rights that have nothing to do

with the "property" model. Intangible assets are not appropriable, on the contrary, according to present legislation, authors and right-owners have the right to exercise certain delimited monopolies in time. Talking about "technological alternative" is changing the sense of what FS really is, whereas sustaining concepts of "property" in relation to software is only good for nurturing confusion to the matter of patent monopoly and copyrights.

When identified challenges are mentioned, it is fundamental to underline that part of the pending challenges regarding information and diffusion is in the need for generating understanding and throwing some light on concepts that allow us to clarify judicial frames within which the FS develops. Understanding copyright laws, problems derived from the application of certain patents, and knowing the licensing framework for software helps the community in its efforts to avoid expressions that repeatedly appear in the research, such as "Intellectual Property" and "Common Property", in our discourse.

Talking about "Intellectual Property" strengthens the tendency to make us believe that software and intellectual works are a "property" in the same manner that tangible goods are, and this generates confusion around the different judicial arrays of what is embraced under IP. For the FS community, using the appropriate concepts is a strategy of political action (26).

Another conceptual problem along the research is bringing into the FS community discussions from organizations with a different agenda. Some groups with their own political agendas make notable efforts for disguising their interests as if they were shared with the FS community, pretending to transform our community in a battlefield that allows them FS somewhere in the spectrum of classic politics.

Methodological mistakes in the research provide these types of conflicts with permanence that, to say the truth, have no place in our community.

On Methodological Aspects

Every investment is based in cuts, and in social sciences, slanting cuts seems to be inevitable. This is why it is fundamental that the researcher clarifies the kind of cuts he does, making an explicit reckoning of the slants and preferably explains the reasons for this decision.

For starters, the Bellanet research parts from a very particular trimming in the choice of the counterparts. It is worth mentioning that, at least two of the counterparts working in the research do not have a direct relationship with the FS community (27) and are frequently regarded suspiciously by our community.

In addition to this cutback, which probably adds up to the research slant, there are other cutbacks produced from the action realms of some of the counterparts.

It is regretful observing that in the

South Cone, some of the people selected for the research belong to a same organization, which by the way, doesn't have the FS agenda as a priority, but on the contrary, clearly work in a political line of fighting capitalism using FS as an anti-corporate flag (28).

Having done a cutback of this nature, it is not surprising to perceive, almost like floating throughout the research, a strong sympathy of FS activists with left wing political sectors. This is another misleading notion in the research, notion that could be attributed to not knowing the regional scene well or simply to political will. This is not stated clearly in the text.

Simply as to consider an example present in the text itself (29), it is worth mentioning that the work process for updating GLP licenses made evident how certain groups don't hesitate bringing their own political interests into forums that have nothing to do with traditional politics, such as the GPLv3 scenario. This way, said actors prove they are totally incapable of leaving aside their own political interests when working with FS as a central concept. Before this kind of events, it becomes clear who has FS as a priority in their agendas, and who see in FS a mere opportunity to pull objectives through that have little to do with our community.

The problem in the research regarding the South Cone is that it has prioritized on the voices of those actors whose primary agenda is not FS, leaving aside the testimony of a substantial part of our local community.

Similarly, and when dealing with a research, it is the responsibility of those who research to maintain at least a certain distance from their own sympathies in order to construct knowledge. In social theory construction, it is very hard to isolate from one's own ideology, but it is inadmissible that a research that calls him/herself such to figurate in the same projects they are supposed to research, presenting personal appraisals as results from field work. Either one is part of a certain project and speaks from within, or the research role is clearly defined and one effectively researches (30).

Both cutbacks and personal appraisals are part of the social sciences researcher's routine, but precisely because of that, and following Max Weber's methodological line, it is mandatory that the research makes this judgment explicit in his/her work.

What is cutback, why and from what political stand a research is done is fundamental for the work to be sufficiently rigorous.

On some general prejudices found in the research

There are some prejudgments and value judgments along the text.

The research partially shows a dispute in classic political terms within the community. This is not so. Those who hold FS as a priority in their agendas can discuss multi-

ple different matters, to leave their political-partisan interests aside when fighting for FS. It is easy to differentiate activists taking this as a reference. Those who pretend to include political disputes (based on the left wing – right wing axis or capitalism and anti-capitalism) in the FS scenario don't hold FS as a priority in their agendas, and instead use it as an instrument for their own objectives.

Hence, instead of believing there are divisions within the community because of these political contradictions, one could affirm that there are political actors who seek to use the community and even portray it as divided in order to satisfy their own aspirations, which are not necessarily those of our community.

This is not a value judgment on whether this is right or wrong, or if these people are a part of the community, but simply a clearing note to underline why the slant in the Bellanet research (which has decided to overlook vigorous user groups such as UyLug in Uruguay and groups like CaFeLug, GrULiC and LugRo in Argentina) is concerning.

Another prejudice that hangs over the text is the pseudo-distance between enterprises and community, un-doubtful consequence of the same cutback and slanting observed in the document. It is common that FS activists identify themselves with left-wing political ideas reveal some distances and discrepancies with entrepreneurial organization forms. Nevertheless, said judgment from some activists is not inherent or common to the FS community. FS philosophy does not state anything against commercial use in programs, as long as they respect the liberties of FS users and developers. On the contrary, the community needs development of business models based on FS to become sustainable in time.

Finally, we find another prejudice that does no justice at all to the South Cone community. The explicit idea in the text that LUG's and GLUG's are just technical groups, evidences a great ignorance on the actions of these groups. In fact, from user groups such as CaFeLug in Buenos Aires, and organizations such as the Via Libre Foundation and FSF Latin America, have come many political actions as the recent demonstration (31) that took place in the Argentina Ministary of Education, where a group of hacktivists directly intervened in an act where Minister Filmus presented an Alliance for Education Program with Microsoft.

That a research of broad arrays contains this kind of prejudices seems also due to the slanting generated by the cutback of the voices chosen to speak for our community.

In short, the objectives of the research were excessively broad and parted from false premises such as considering FS as a "technological alternative" when it simply isn't. Then, the ambition of "studying each of the sectors involved in the software movement of Latin America and the Caribbean- meaning, academic, government and private sectors, civil society, and user groups- their perspective on the subject and interrelations" lays unfinished due to evident methodological limitations.

The research shows problems in several stages:

- In stating excessively broad and hardly achievable objectives without a clear definition of a work hypothesis and the variables and indicators to research.
- In the selection of the involved counterparts, where researchers showed lack of knowledge in the field to be research. This could have been solved with an exploratory research previous to the selection of counterparts.
- In the slanting of the counterparts themselves, which regretfully couldn't separate their interests as organizations from their task as researchers and brought their political visions into a work that should be about observation, compilation of data and a more rigorous analysis.

It is very different to be an activist than a researcher. Stating that one writes as an activist is one thing, but declaring one self a researcher and writing as an activist is another, particularly when the results of the research become affected by personal sympathies and partisan conveniences.

Complementary and recommended bibliography

Heinz, Federico "Los desafíos de la comunidad de Software Libre en Latinoamérica" en "¿Un mundo patentado? La privatización de la vida y el conocimiento". Ediciones Heinrich Boell Nro. 19 en http://www.boell-llatinoamerica.org/download_es/Libro_biopolitica.pdf

Brod, Cesar Free Software in Latin America en http://www.brod.com.br/files/helsinki.pdf

Pilas, Rodolfo Software Libre en Uruguay en http://www.pilas.net/?p=85

Linux Advocacy HowTo en http://www.tldp.org/HOWTO/User-GroupHOWTO. html

Notes

1 http://en.wikipedia.org/wiki/Geek

2 http://www.tldp.org/HOWTO/UserGroupHOWTO.html tradu-

cido parcialmente por Grulic en http://www.grulic.org.ar/grulic.html#lug

3 http://www.linux.net.uy/tikiindex.php

4 http://www.linuxteros.codigolibre.net

5 http://microlug.linux.net.uy/

6 http://www.charruahost.com/107/news.php

7 http://www.salug.org.uy/

8 http://linuxarachan.net/

9 http://www.cafelug.org.ar

10 http:// w ww.cafeconf.org.ar

11 http:// w ww.grulic.org.ar

12 http:// w ww.proposicion.org.ar

13 http://www.lugro.org.ar

14 http://www.lugli.org.ar

15 http://es.tldp.org/

16 http://www.lugmen.org.ar

17 https://listas.linux.org.ar/mailman/listinfo/anillolst

18 www.usla.org.ar

19 www.linux.org.ar

20 http://except.com.ar/

21 http://xtech.com.ar/

22 http://www.opensa.com.ar/

23 http://www.lugro.org.ar/proyectos/libroblanco/index.html

24 http://installfest.info

25 Ver Investigación Bellanet pag. 14

26 http://www.gnu.org/philosophy/wordstoavoid.es.html

27 Funredes y AlfaRedi

28 Me refiero a la ONG Hipatia

29 Ver Investigación Bellanet pag. 34

30 https://www.ututo.org/www/modules/team/team.php

31 http://www.dsur.net/bbusaniche/?p=110

CONCEPTS AND DEBATES ON KNOWLEDGE FREEDOM AND FREE SOFTWARE

Diego Saravia

1. SOFTWARE AND KNOWLEDGE FREEDOM

1.1 What is Software?

Software is the set of programs that control the machinery on which humanity is increasingly more dependant on.

Without Software we would not be able to withdraw money from the bank or extract petrol. Our telephones work through software; election poles are handled with software; and more hundreds of examples. Our society functions through Software and the capacity of creating and modifying it determines how many aspects of our lives and economy are controlled and determined.

In recent years a few corporations have managed the creation and distribution of Software in the planet, and their owners are the biggest millionaires anybody can recall.

These companies have managed to achieve a monopoly by using restriction laws on intellectual property, known as ¨copyrights¨, laws which allow the editorial industry to charge money for every copyrighted work distributed.

For books or music, publishers show the actual intellectual work 2. What is known is what the authors wrote or composed.

On incorporating binary software into copyrighting, millionaire software multinationals ban the actual intellectual work from being showed. They just offer a sub-product, a set of instructions (binary or source code) which is only understood by the computer. The text created by human programmers is left unseen.

This becomes very damaging thus no one knows what programs actually do. Governments loose sovereignty because they have no security control for their machines and information. Enterprises and organizations are at the mercy of these monopolies for any change or issue that comes up, and must rely on and trust only them. There is no competence in said conditions, and what's worse, the data for people, organizations and governments that these programs store are not readable with other programs. Information is owned by monopolies, and all depends on them in order to recover any of it.

This kind of software is known as "licensed", according to some, and more recently as "privative" according to other. It usually contains many mistakes and helps virus dissemination and other things, because no one can audit or improve it.

1.2 What is Free Software?

In order to solve problems caused by new legal practices on copyright and monopoly action on software, a group of people worldwide created FS.

Working jointly through the Internet, building the Internet, creating alternative software and giving humanity the chance to know the source code, modify it and to use the software as desired and

share it with others by distributing it.

Definition of Free Software: software over which there are rights for: 0) using, 1) inspecting, 2) distributing, 3) modifying and distributing its modifications.

software which allows to: 0) use, 1) inspect, 2) distribute, 3) modify and distribute its modifications.

A social movement, emerging from the community of developers, organized in hundreds of projects of wide array and inspiration that invented work methods where hundreds work on the same program and share the results, and where "everyone contributes a little bit and takes everything".

This is knowledge.

If one drinks a glass of water, that water ceases to be available; if, on the other hand, one uses an idea, nothing stops another person from using it too. Every time one shares an idea every one can have it and use it, contribute and share it with others. Ideas and software are naturally free.

A group that is enriched by user groups (LUG´s) and their communities, activists from every ambit, ideology, organization, cultural environments, parties and knowledge fields that contribute with ideas, work and social and political action behind the concept of Free Software.

In a wired world, there is no point in establishing restrictions to the circulation of digitalized ideas, because this very action has no marginal cost. We can all offer our ideas and receive thousands of ideas from others. We can all give one and receive a thousand, it is a game that always adds-up positively.

Free Software supporters are constituted as a social movement with a political position regarding intellectual rights and endorsing more rights for the people. What is hoped to be achieved with the final goal: that ownership-based licensed software ceases to exist.

Essentially FS is politics, militancy and ideology instrumented with concrete methodological collaborative work practice and technological development.

1.3 Programming

Programming is one of the most pure creative arts, absolutely limited regarding its expressive possibilities. A program consists in a simple sequence of 60 different characters, which potentially contain all that can, has, is and will be known.

Carries out everything that can be executed. Pure Language. Functional Abstraction. Machine and communications.

When this art is freed and becomes collective, the experience reaches thousands of communities, defining them.

When it is not only a matter of an effort but of a whole group of efforts that interact and also have a technical, social, political and ideological purpose, it be-

comes a universal project.

This is, in essence, Free Software; a project for humanity's projection into the future without remaining attached and falling into a digital dictatorship based on machines controlling all human transactions.

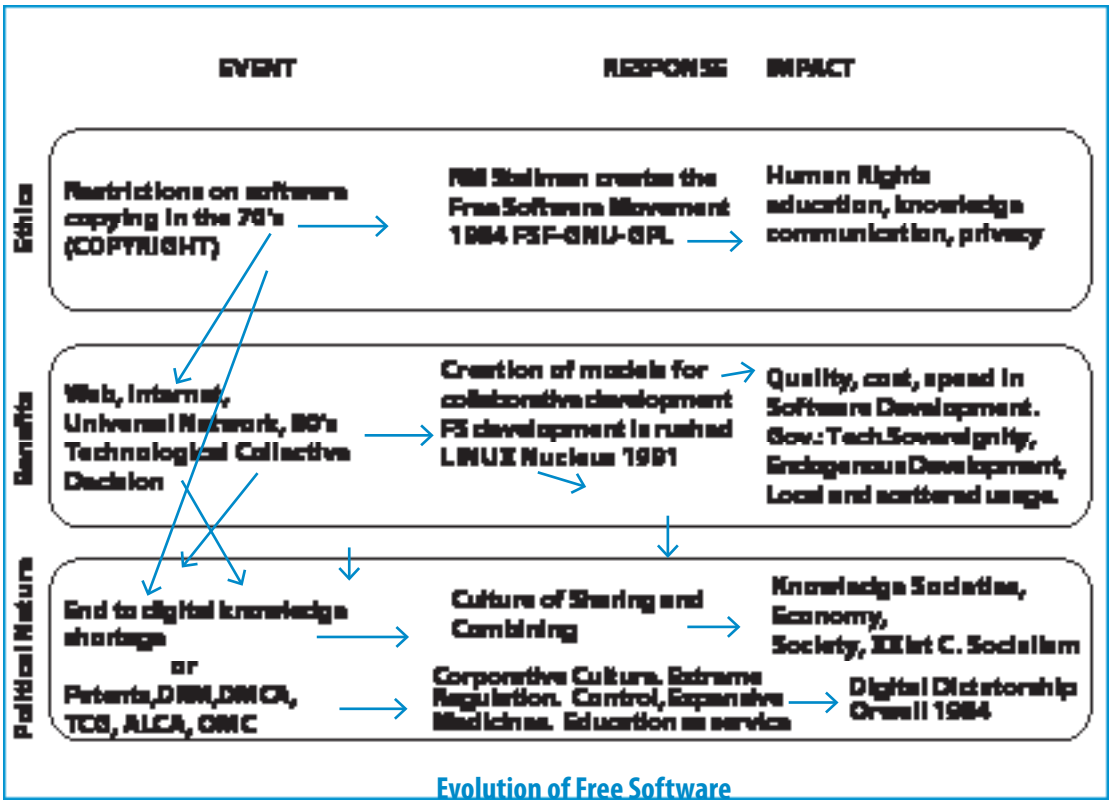
An artistic, creative and collaborative project. A process that builds communities, networks and its own tools: Internet, GNU/Linux, Apache, Firefox, and hundreds of art-pieces with practical sense and great abstraction.

A process where each software is a work of great beauty, originality, technique, sensibility, effectiveness, efficiency, quality, professionalism and which evolves in time with the contribution of hundreds of minds.

A starting point in Human culture, prompted by rising and vibrant social movement which seek alternatives, making possible another world.

1.4 What is not Free Software

It's not just an array of techniques, technologies and tools. It's not just a set of trademarks.



Evolution of Free Software

Any software can be distributed under free legal mechanisms (or licenses), even those from software monopolies. It just so happens that some of these monopolies decide on not liberating their software.

It's not an array of determined economical or industrial products. Free Software economy is not based on software products, but in non-monopolist services. We can have different scale Free Software enterprises: small, medium and huge. Software is always available, what can be hired are people's services to install, configure adapt or even create it.

It is not a monopoly or a sole program. For each need there are different communities that create programs. For example, for operative systems you have Linux or BSD, for postgres or mysql databases, for desktops KDE or Gnome, etc, etc... These communities compete or collaborate based on the needs.

1.5 Copyright, copyleft and the"copy - paste" culture

"Copyright" is a system that transfers rights, granting power to editors -from authors- , in detriment of "readers´" or "users´" rights. This generally operates by restraining the right to reproduce or copy knowledge.

Authors are usually in a dependence position or sell their rights to editors. The latter determines, through individual or general licenses, what kind of rights they grant each person over the intellectual work they control. This is sometimes done for a price or a return favor.

Copyleft uses copyright system to create a community of people who share knowledge through their intellectual works. Using legal copyright tools they achieve the opposite objective.

On one hand copyleft gives back readers and users´ rights taken by the copyright system, but it doesn't place the work outside copyright system hence making it public domain. If this were to be done, the work could be renowned exclusively by third parties. In this sense copyleft is Free Knowledge.

On the other hand, copyleft indicates the reader that if they want to redistribute a work or distribute modifications done to side work, they must grant readers and users the same rights they received from the original authors or editors. In this sense copyleft goes beyond knowledge freedom by forcing all beneficiaries of said knowledge to maintain it free.

For this reason, copyleft is a system that distributes knowledge virally. Everything it touches remains free and expands by touching and freeing more knowledge. As in a judo throw, it awaits for the opportunity and uses the enemy's own strength to force giving in. A space not covered by laws.

Because the legal system cannot be changed because of a lack in political power for it, it's better to use its own force to destroy its own objectives.

This legal invention abilitates ``remix'' or ``copy-paste'' cultures and allows the existence of bazaar model work in collaboration with intellectual works.

Thus, knowledge freedom is a consequence of:

1. Liberties and copyleft,
2. Internet,
3. Computers and their content-edition capabilities.

2 HUMAN RIGHTS

Hipatia in its second Manifesto[Hipatia: SM-04], claims for freedom of knowledge3.

The construction of a society where people's dignity is respected requires for knowledge to be spread in a solidary way.

And demands Human Rights [DUDDHH] to be particularly respected:

1. the right to free culture (see point 4 in the "Everything is Settled" section),
2. the right to education (point 5),
3. the right to free communication (point 6),

rights where its execution is prevented – in the array of knowledge societies, with their new technological basis and communication mechanisms – by inforce normative patents and copyrights systems. The growing preponderance of said normative systems facing Human Rights must be limited, given public interests and its social functions, to avoid restraining human kind progress.

We must build a solidary ans sustainable knowledge society.

Correspondent is a legal system modification, adapting it to reality, to society's convenience and the new usage and ways of the network, putting into practice the right to knowledge freedom, according to what is established by [DUDDHH].

In this manner, consolidating ethical principals that allow people to spread their knowledge, to help themselves, help their community and the whole world, with the goal that society becomes more equal, free, sustainable and solidary.

Regarding this, Hipatia:

- invites everyone to work
- so all institutions, private and public entities and especially governments around the world, manifest themselves and take part in creating and establishing a legal frame:
- adapted to reality, convenient to society and the new usage and ways of the network,
- allowing everyone to enjoy knowledge freedom, as established by the Universal Declaration of Human Rights.

2.1 What happens with authors?

The three aforementioned human rights: culture, education and communication, (as well as others) have preponderant value regarding the normative from copyright law 4 to benefit from

their own creation, found in paragraph 1, clause c), article 15 on [PIDESC] and paragraph 1, article 27 on [DUDDHH]:

> *"Every person has the right to moral and material interest protection regarding scientific, literary or artistic productions on which they have any authorship."*

The enforcement of this right is limited by public interest and social function, which is confirmed in the quoted documents.

Rights regarding knowledge don't limit other human rights, particularly the right to privacy established in article 12 on the [DUDDHH]. Knowledge freedom does not force anyone to spread certain information, nor makes it publicly available; it just gives those who know it the right to spread it, not the obligation.

Knowledge freedom allows a person to exercise a kind of solidarity that has been lost today. By default, if the author doesn't pronounce, based on public right today, the expressions of the ideas of a third party cannot be diffused. With freedom, the expression of a known idea, if the source does not expressly pronounce against it, can be diffused.

Knowledge rights are deeply related within themselves because it's impossible to exercise them individually, or report without knowing, or knowing without having been reported or educated. Education for today's highly sophisticated society means having access to all available knowledge, unrestrictedly, from the first formative stages, with contents and abstractions that belong to each level. This is unachievable if diffusion is prohibited.

2.2 It is necessary to modify the Law

Legislation on copyrights, patents and all legal monopolies over intellectual creations must encourage knowledge diffusion. Technological changes made systems that encouraged this diffusion to restrain it today. Today's enforced legal frame, consolidated in the industrial era with the aim of favoring diffusion of information and knowledge, today becomes anachronic and unfitting.

Impediment on the flow of a certain information, which activates every time someone who has access to it tries to spread its expression freely, harms people and society, and benefits only a minority's particular interests (that don't necessarily match the authors´).

2.3 This is all stated in:

1. the 1984 Universal Declaration of Human Rights ([DUDDHH]),
2. the International Pact of Economical, Social and Cultural Rights ([PIDESC]),
3. the International Pact of Civil and Political Rights ([ONU:PIDCP-66])
4. paragraph 1 clauses a) and b), article 15 on [PIDESC] and paragraph 1, article 27 on [DUDDHH]

"every person has the right to take part freely in community cultural life, enjoy the arts and take part in the scientific progress and the benefits derived from it"

5. article 13 on [PIDESC] and article 26 on[DUDDHH]

   ``Every person has the right to education. Education must be free of charge, at least regarding elemental and fundamental instruction…; ''

6. paragraph 2, article19 on [ONU: PIDCP-66] and article 19 on [DUDDHH]

   "every individual has the right to freedom of opinion and expression,; said right includes not being bothered because of personal opinions, the right of researching and receiving information and opinions, and spreading them without frontier limitations and through any means of expression.'"

7. paragraphs 13 and 18 on [PT-CIDH]

8. paragraph 1 on [R2000SPPDH] and paragraphs 4, 5, 6, 7 and 8 on [R2001SPPDH]

9. [DUPCTP], [ONU:DDD-86] y [UNESCO:DPC-66].

3. SOUTH AMERICA

In these South American colonized territories, where colonizers and colonies both continue the unending quest for freedom and independence, Free Software has penetrated into the imagery of many minds with the strength of its illusion and fantasy.

Cells scattered throughout the subcontinent learn and contribute, form their first virtual communities and local, national, regional and universal groups.

They organize themselves, integrate and constitute social movements to spread their ideas in a militant manner.

Convince Governments, companies, organizations of all kinds. Install, migrate and sometimes also fail.

Work, earn, donate, collaborate, like little ants that as Viglietti would sing, build and build without stopping.

In the space of Free Software many can participate: programmers, promoters, philosophers, politicians, writers, designers, organizers, lawyers, musicians, painters, everyone can take on a role and earn a place..

3.1 Politics and Community

Those visiting find social and political content in South American Free Software Communities surprising, in comparison to those of wealthy countries.

There are still few and small technical basis in our countries.

There are still few strong national organizations.

There are few and not very numerous user groups in the different cities of the Sub-Continent.

There are few development projects based or originated in South America.

But all the Governments that are actually betting on Free Software are South American.

There are international organizations promoting freedom of knowledge originated in South America (Hipatia).

3.2 Governments

There are at least two Governments that consider Free Software strongly: Brazil and Venezuela, at the moment the only two National Governments in the world. Venezuela officially and Brazil with great political support. Probably the country with most technical abilities is Chile, the only South American country with more than 100 people registered for every million, (106) in the Linux counter(April 2006). And probably the country where Free Software is least politicized. Uruguay follows in the counter with 60.

The Venezuelan case is paradigmatic. Considering the sabotage against the Government carried on during the oil stoppage, President Hugo Chavez decreed (3390) that in the term of two years all the Government had to work with Free Software allowing technological sovereignty.

Hence, endogenous development is encouraged, investing enormous resources in the country and in Venezuelan informatics workers that in the past went to multinational software monopolies.

4 SOCIETY

4.1 Democracy or Dictatorship in knowledge societies

From a note in "Sete Pontos" [Saravia: DDS-03], *also see:* [Saravia:MH-01,Hipatia:SW,Varios:Art].

The combination of informatics with communications interconnects human beings allowing the creation of organizations that were before unimaginable. We find ourselves before an unprecedented technological, communicational, social and human revolution previously unknown in history.

The new developing human, economical and political organization, or "Knowledge Societies", is being defined. The ethics we agree on, the rights we grant ourselves, the norms we will institute and the communion we achieve, will in great measure define and shape human culture for the next few centuries.

Internet kick started the revolution that conjugates phones with mass-media, the power of processing and digitalizing information. The libertarian spirit that impregnated this, shadowed in Universities, gave origin to a community of hackers and created Free Software. Philosophy and technology grew sheltered and connected to the web, feeding it along the process that still defines the space and cultural tools of the young Society of Information.

This process is causing a strong reaction. Some industries, as is the case of editorials and record companies, are destined to disappear or change radically. They

are ceasing to be necessary. Anyone with a computer and a broad band connection can act as a distributing center, building up common knowledge.

The process is irreversible. Just as automobiles took the place of carriages, P.C.s and Internet will take the place of editorials and music companies. Early illustration pioneers, are today anachronic. But they're still powerful corporations, capable of exercising this power. The reaction can impose some regulations that could constitute a totalitarian and controlled centralized world, delaying the progress of humanity. Some Governments and corporations wish for the Internet to be a mechanism to reinforce their former business-making ways and their power. On the other hand, citizens and organizations wish for internet to be a phenomenal means of communication that will change our way of relating and decentralize economy and planetary control.

4.1.1 The ``exclusive appropriation'' of knowledge

The establishing of property production means defined industrial society. The central discussion in 'knowledge societies' takes place under the publicity slogan: 'intellectual property', which pretends to join three different concepts: copyrights, patents and trademarks. If one shares an apple every person has the right to just one bit, if one shares an idea every person has right to the whole thing. Mechanisms such as copyright were specifically designed to generate the economic structures that support the flow of ideas. But this occurred when information was firmly attached to the physical mount that contained it. Today, the medium can be completely separated from the content. Digitalized information is uncountable and ubiquitous and its marginal reproduction and distribution cost is inexistent. Once created and digitalized, an intellectual work can be copied, distributed, accessed, and enjoyed by millions of people at the same time, without any difference showing between the original and its copies, and without even a marginal cost produced by this enjoyment. The aberration of distributing binary formatted software and referring to this abject practice and its humanly incomprehensible 'content' as 'intellectual work' and protecting it with copyrights and even patenting it, made things even more complicated.

The strategies used to delay the unavoidable flow of information are:

- Global Marketing campaigns to label the sharing of copyrighted information as 'piracy'. Laws are passed to criminalize Internet practices.
- Encouraging peer accusation in different ambits, reminding us of the worst practices in fascist regimes.
- Trusted Computing Group (TCG), former Trusted Computing Platform Alliance (TCPA), develops a concept of Fisable Informatics (or Traitor Informatics, depending on how you look at it). Technologies created to take control and appropriation of people's computers, with the intended purpose of preventing content copying.

- Youngsters who are able to explore these mechanisms are 'criminalized' instead of recognizing their talents.
- Artificial mechanisms are developed for the restrictionof idea-sharing by regions, times, usage instances, etc.

Life, freedom and intelligence always find their own way. The problem is not the end, for some hacker will find a door to let the light of knowledge in, the problem is in the process and what we might lose along the way.

4.1.2 Free Society vs. Controlled Society

The attempts of the old information industry to subsist in the new era of knowledge only become possible through imposing a parody on the Information Society. They must be able to control every program running in every computer in the world. This way, they destroy the very spirit of the new era. To achieve this, they must develop physical mechanisms and special components that answer to their interests and take away command from the computer's owner. Every computer must execute only what it is authorized. When everything is handled with programs, even elections, the resulting society will be democratic or totalitarian. Today, while there is still an action realm, we must ban this. Or at least avoid it being imposed by law.

Only with freedom of program running, Free Software and depenalizing file-sharing, we will have universal access. Thus, the four liberties that define Free Software comprise the basic rights of the Information Society: freedom of execution, knowledge, communication and creation. Without knowledge freedom, education as a right becomes impossible, as becomes putting and ends to the 'digital gap'. It is not only a matter of eliminating the digital gap informing poverty, we must eliminate poverty resting on Free Knowledge.

The specific battle we must fight:

- avoiding centralized control of our computers,
- putting an end to any attempt of patenting software,
- avoiding any type of penal laws such as Digital Millennium Copyright Act (DMCA) http://anti-dmca.org/ and especially preventing it via FTAA.
- continuing the development of the structure and use of Free Software.

The result of these quests will determine the future profile for all humanity. The information society was born free and grows to the vibrant beat of humanity. Keeping it this way (free) we will establish the right to access, information, knowledge, communication and education for all human beings. We will build a free, fair and solidary society.

4.1.3 Alternative Ways

Today, before the posed challenges, humanity has three ways for consolidating the liberation of cyberspace, the informatics revolution and popular globalization:

- **Political:** Promote changes in copyright legislation, even eliminate it 5, avoid DRM, and penalizing copies and most definitely in Internet. Banning the establishment of software patents. Fighting

for a development not marked by shortage, in an ambit where this is possible. Dictate laws on usage and creation of Free Software in Government, along with laws to administrate the State's intellectual works. Promote executive decrees and migrations in Government, or the educational system. Participate in meetings and events at any level anywhere in the world. Process Microsoft for its monopolist actions.

A primary matter is if Governments should use Free Software or if they should favor it or if they should choose case by case [Romero:OPT-05,Saravia:SLA-03,Saravia:NT-05,Saravia:GAS-05].

- **Criminal** [Lanier:PF-99]: using software illegally, copying music from the Internet. This is the way of most of humanity , and it deals with the habit of ICT use in the planet. Illegal but usually admitted. Not recommendable and a big mistake in the long run. As Bill Gates once said [Gates:ESA] and was also quoted by Amadeu [Microsoft:ASA-2004], users first use software for free and illegally, then they sort of become addicted, … we'll find a way to have them pay.

  Curiously the law attempts to change the commonly accepted use, instead of trying to organize these habits.

- **Alternative:** Develop Free Software. Erecting a new building. The path or plan proposed by Richard Stallman (rms). An alternative for every application. Another world is possible.

Software patents and ``DRM'' can destroy this path and in this sense the political course must not be abandoned. Patent and ``DRM'' universalization constitute the plan of software multinationals and editorials.

Regarding other forms of knowledge, things are more complex. The result of the battle for Free Software will determine in great measure other battles in the quest for knowledge freedom.

Today there is a big alternative movement, which gives everyone powerful fighting tool to create a different world, not only already possible but in the process of being built, turning computers and minds into trenches.

4.2 Voting Technologies

Each time someone makes a choice [Saravia:GI-04], they are voting for markets (or for non-markets and for rights), each time a technological option is exercised, one is voting for it. Network administrators in American Universities voted for the Internet and with this decision imposed the web as a worldwide one. Elections were lost by IPX to Novell, SNA to IBM, NetBios to Microsoft, etc.

Now is the time for Software, every vote counts, every choice defines the battle for Software freedom.

It is also the time for file-sharing, every new developments that allows music and 'content' sharing leans the scale towards a better more prosperous and free world [Rehermann:NMP].

This way we will have more intellectual prosperity in the Free Knowledge world [Saravia:REC-04], [Saravia:DDS-03], [Saravia:EI-03] as opposed to an enclosed privative one.

4.3 Fundamental Contradictions

- During the industrial revolution the fight was between private property and common property in production means.
- In the informatics revolution and knowledge societies, the fight is between private and free knowledge. Private property or freedom of knowledge for its means of production and/or creation.

4.4 Knowledge Societies: towards a new socialist project?

Combination of local work, informatics sovereignty, collaborative global development, digital liberties and technological transparence determine that Free Software is part of the means to build knowledge societies in the XXIst Century's socialism (6).

This does not stop Free Software from also being part of other political projects [Solar:SLP].

5. ACADEMICS

Free Software is dysfunctional to traditional methodologies in education, and the academic field has not proven useful for its propagation, at least for now in this Sub-Continent 7 . It is yet to be seen if massive educational methods gain more presence with the popularity of Free Software. Today people learn through the internet, via local groups and virtual communities. Without a doubt one of the top achievements of LUGs is the dissemination of technical knowledge required for Free Software. LUGs´millitance has been one of the strongest points of resistance to corporative propaganda and publicity. Militancy vs. Commercial Marketing.

Some have opted for certification as a means to formalize this area.

A writer cannot be formed without having access to literature. Informatics cannot be taught without access to the source code. Universities and academies that only use licensed software are of questionable academic level.

6. ECONOMY

6.1 Proprietor Industries

The promise of Free Software competes in Latin America with the promise of the development of the Licensed Software Industry, which offers things such as regional call centers for technical support, or software 'sweat shops' where software is manufactured quickly with cheap programmers and abundant importing of multinational licenses.

In some countries such as Uruguay and Argentina to some extent, governments have bought this idea and have granted important imposed exemptions. The 'export' amounts are always made public, but rarely are those of the imports

which nourish them or each countrie's global balance regarding software.

6.2 Companies and Profit

In many private companies, even multinationals, Free Software has penetrated silently with some outstanding examples in the region today. They don't seek or wish for publicity, but he who wants to see them, will.

In some companies and also in Government, Free Software strengthens the inner strength of technology information, because they can reduce expense and increase their staff and capability of technologic control. In the 'outsourcing' debate there are those proposing Free Software from both fields.

6.3 Fair Commerce

Fair Commerce is a kind of commerce that emerges form a free, direct and honest (not fraudulent) new relationship between three new economical subjects: producers in impoverishment process, solidary consumers and non-profit intermediaries.

6.4 Free Commerce and Free Software

Few times have we stopped to consider the revolutionary implications in knowledge freedom in the business world.

One of the permanent assertions in Stallmanian philosophy is the question of "free does not mean costless". And in firm defense that software freedom must contemplate the possibility of making free business.

Free Knowledge has the particularity of allowing free commerce, but avoiding monopoly. For this it is a crucial base for abilitating Free Commerce on the Internet.

To go deeper into these matters one must differentiate between "creation" and "production" of knowledge, one means thinking up and creating the original and the other means the massive reproduction of it.

In the digital world creation has its cost and it cannot be recovered through production, hence it is a typical example of a good element that cannot have an exchange value, thus, its creation must be financed or paid for.

For this purpose we have governments, patrons, universities. And organizations and mechanisms that allow many to contribute a little. There are also organizations interested in creating a determined knowledge for their own use, and in this way recovering some of their investments.

What characteristics does this "business" freedom have?

1. Being free material, there is no means of establishing monopolies and by this the generation of corporations and mega multinationals is avoided
2. By making work and commercial exchange easier this allows people to live from knowledge related activity. Everyone in equal conditions for knowledge is free.

From the merging of both characteristics we get that, in the intellectual work field, the principals of knowledge freedom easily solveone of the great economical debates of the past centuries.

People my have means of production, but these cannot be exclusively owned. There is right to work and make a living freely and formation of classic monopolist capitalist structures is avoided.

That is to say, freedom of knowledge allows moving towards societies beyond capitalism and/or with socialist perspective, at least in this array of intellectual work. Real workers can live form their work, and monopolist structures that take over appreciation cannot be formed.

Is commerce harmful then? Is the non-free market of current day monopolies the only possible market? One criticism to capitalism doesn't rely so much on the concept of open markets, but in the fact that it naturally leads to the creation of monopolies. To everyone according to-their work has a guarantee in the 'copyleft world', where it is not possible to build a 'to each one according to their wealth'. 'Knowledge Freedom' isn't opposed with "to everyone according to their needs".

6.5 Creative Commons

We have to be very cautious with licenses such as``Creative Commons" with options that foresee a "non-commercial use", where people are invited to distribute material restricting its "commercial" use, which particularly sets aside private or paid public schools (many subjects in institutions are financed with state grants), block fair commerce, or impedes at-cost redistribution of contents in environments where these should be sold.

Creative Commons stimulates the authors' right to free choice more than knowledge freedom. Creative Commons does not forsee its use for software.

6.6 Infinite Capitalism of ideas, or Knowledge Capitalism. Abundances and scarcities

Taken form a conference by Diego Saravia in Montevideo, Uruguay, August 2003, written by Verónica Xhardez.

The World, is finite. There must be 10.000 km between here and Paris, I think. It is finite. It can be measured.

Economy is the science of scarcity. Knowledge is not scarce, hence, it is not part of economy, it is not property. And if we turn it into property we face a great danger, that those who own that which is infinite become the owners of all that is finite.

That is why when they tell me that the U.S. lost 30.000 million dollars [because of ilegal license use], or that Bill Gates has 60.000 million dollars [I think] It's a lie! Those are jokes. Because there is no reality, there is no world… the world cannot hold all this. There is not enough oil to hold this, there is not enough water, not enough forests, not enough food, not enough earth… Economy is finite, and making proprietors own infinite wealth can only result in them keeping everything that is finite.

That is why it is a big mistake to assign

economic value to ideas, because ideas are infinite and those who wrongly start owning these, are really starting to own things that are finite. All this knowledge is going to be worth more than the whole ORU, which is finite, Uruguay has a finite space, but there are infinite ways of copying Word or Windows or whatever. [All of Uruguay wouldn't be enough to pay off the knowledge being copied in Uruguay.] So, we must fight the idea that ideas are a property.

There are rights. If somebody writes something they have a right for having written it. What is that right exactly? That which society grants the author. A programmer, just like anyone, has a right to charge for his work. I design a program but I must eat, I have to charge a certain amount of money every month. But I did it step by step: I worked one, two or three months, then I charge three months. Sounds honorable, reasonable and logic.

It is unreasonable that I work for one month, create a program, and because 100.000 million copies of this program are sold I get 100.000 million dollars. This is not fair. To top that off, it isn't fair that it's not the programmers who own the companies. Because Bill Gates doesn't program, he pays a salary to his programmers. He pays one, two or three month's worth of work, but sells 100.000 million copies of which the profit goes to his pocket.

Thus: we must be careful with this. It's not the authors who are cashing the profits, they just charge a monthly salary like all of us or most of us.

7. SOME DEBATES

There are some Free Software related debates, some of which are internal to the community, others involve third parties.

7.1 Open Source vs. Free Software

Must Free Software be defended because of its technically more efficient development model or because of its liberties and ethical principles?

This debate hasn't had too much impact in South America. In fact Solar [Solar: SW]8 has formalized the idea of defending it for both causes and included that into its constitutive principles [Solar:P].

In spanish, the problem of confusion between the words 'free' and costless doesn't exist, whereas in English it does with the meaningd of the word 'free'. The expression "Free Software" can be used by both tendencies and the debate is reduced to its real importance and not in defining the community's identity.

7.2 Politization

There are other debates that affect the Latin American Movement more directly that are related to Free Software Politization.

Some still resist the principle installed more strongly by Free Software in the Continent, which is the ideological involvement with Governments and Political Parties. Nevertheless in both the, decree 3390 in Venezuela [Venezuela:DSL-04], as in the beginnings of Free Software in Brazil, , -Porto Alegre-, there is a strong political and ideological presence

of socialist left-wing.

In general, all segments in the left wing that are involved with the movement, acknowledge Free Software as and idea that is strongly attached with the ideology and don't usually look down on right wing segments reinforcing their positions on Free Software, though this has happened in a few cases.

Right wing segments usually defend depolitization. The politization of Free Software is theoretically two laned, in practice one laned, and has been and continues to be resisted by some conservative groups which speak of not getting involved and not letting Free Software "be stained" by other fights or struggles. Others question if this politization is favorable at a given time and unfavorable when there is a change in office, as was the case with Porto Alegre.

This debate on politics often blends with the debate on economical development, on profits and companies, and on giving priority to technical issues.

"Politizicers" often bet on Free Software not being an objective in itself but a means for building a better world, while the "immaculate" sustain that the only objective in their struggle is Free Software.

In essence, the debate expresses the matter of if "all quests must unite", linking the social movement of Free Software with other movements, or if a solitary victory should be seeked without getting involved with other quests. Many people who think this should be an isolated movement don't even acknowledge themselves as a movement and see themselves as technical communities, in many cases only constituted by users. Tendencies which strengthen in South America, because there are not many software development projects to add value to the technical structure of Free Software.

7.3 FUD - Fear, uncertainty and doubt: freedom of choice, technological neutrality, fundamentalism

In the ideological array of diverse social movements, Free Software opponents, to fight it, have introduced the idea of freedom of choice, opposing those of us who say that Licensed Software is unethical and should not be artificially created by law.

So they say everyone should be able to choose, choose in this case to limit themselves regarding their rights. In our view, the rights citizens should have regarding the software they use derived directly form the human rights stated in the international convention.

We believe that people should be able to know the technology they use, should be able to modify it and share it without legal limitations.

And we believe that giving private companies the legal empowerment to keep people from knowing the language that describes what software does is building an enclosed and obscure world, mostly when software is more and more used to control human and material activities.

Licensed software emerges from a legal fabrication, from incorporating binaries

as intellectual works in copyright laws. Changing this law would disappear the fabrication and the problem. Maintaining licensed software in these terms is like maintaining the right of one human being to enslave another.

"Pro-liberty of choice" parties [ISC:SW] blame those who preach Free Software as an ethical matter of being "fundamentalists". Occasionally, sectors that defend Free Software and who don't see this position as contrary to Licensed Software, have the same opinion. Their usual position is that there is place for everyone. Others see Free Software as another way of making business and the ethical position in occasions bothers or limits them.

On the other hand this position grants all power to the authors, and in practice to the editorials and software multinationals. Hence, the only true freedom for choosing within the framework of copyright (license writing) rests in their hands.

Regarding governments, opponents preach for technological neutrality [Saravia: NT-05], contradictory phrase, under the idea that one must choose software only for its technical capacities and not based in legal, economical, social and political advantages derived from it's free usage.

Technological neutrality is a slogan or publicity watchword in licensed software campaigns. Anyone can free their software and compete in equal conditions. It is the distributor's decision. Governments and organizations cannot be attached to loyalty contracts, they must be able to establish better conditions. This is a problem that derives from the existing monopoly, which is coming to an end.

7.4 Foundation Debates

From Ontology in Knowledge Freedom [Saravia:OLC-05]

We will identify at least four concepts, ideas, approaches or doctrinarian sources to support or oppose knowledge freedom. In the analysis of these we find the root of most of the debates the Free Software community holds within itself and with its opponents.

These concepts part from different analytical categories and this is why it is complicated to analyze and structure them without having a previously concealed ontological stratum.

It is interesting to see the interrelation between analyses based on concrete interests, from where ideologies can emerge, or general interests that might structure ethical discourses. Others may take these foundations as morals [GAUEE:SW,Boff: EM:03,Gutierrez:EMT], which can also be founded in suitable interests [Odum: AES-80]. Each of these analysis can apply its own reasoning and, to a certain point, its scientific tools.

In such way, these conceptual categories: ideology, morals, ethics, and the interests which intertwine with reason, science, consensus and debates to build up a rich discursive space that connects with discussions on knowledge societies, while economical, social and political realities define the future of humanity based on software and other fields of knowledge.

Kinds of arguments and counter-arguments

Type	Req. [Saravia:SLA-03]	Matter	YES	NO
Nature (what is)		- Ideas are Free/ public by nature:	A.- Privatizing delays progress.	B.- For progress it must be privatized through law and police enforcement.
Ethics or Morals (what should be)	Transparency, Education, Society.	- Sharing, communicating, being supportive and informed are all Human Rights	C.- .- For ethical reasons, knowledge (functional) must be free. Solidarity, Liberty.	D.-That is a fundamentalist moral position, not an ethical one. Copyrights limit human rights. Sharing and consensus. FL can be promoted (or not), but not imposed [Romero:OPT-05]. Freedom of choice. Authors most retain all decision power over the use of their work. Users must be able to choose within options offered by different authors including offered restrictions.
Advantages	Quality, Security, Costs	- Development model:	E.- The community is more effective and efficient. Let's compete and measure all the facts	F.- ``This is yet to be seen''. Let us compete. Technological Neutrality. Let's not acknowledge non-technical factors
Advantages	Economy	- Economic Model based in:	G.-services. No to monopolies. Technological sovereignty and endogenous development.	H.- intellectual earnings' revenues. Necessary monopoly

8. Rights and Standards

Bibliography

Boff:EM:03

Leonardo Boff. Ethics and Morals, 2003.

http://servicioskoinonia.org/boff/articulo.php?num=020

UNESCO:DPC-66

Science and Culture: General United Nations Conference for Education.

Declaration of International Cultural Cooperation Principles, 1966.

Declared by the Conference on its 14th meeting, November 4th, 1966.

http://www.unhchr.ch/spanish/html/menu3/b/n_decl_sp.htm

PTCIDH

Human Rights International Conference in Teheran.

Teheran Pronouncement, 1968.

Declared May 13th 1968, note=

http://www.unhchr.ch/spanish/html/menu3/b/b_tehern_sp.htm

DUDDHH

United Nations General Assembly.

Universal Declaration on Human Rights, 1948.

Adopted and declared by General Assembly in resolution 217 A (III), December 10th, 1948.

http://www.unhchr.ch/udhr/lang/spn.htm

ONU:PIDCP-66

United Nations General Assembly.

International Agreement on Civil and Political Rights, 1966.

Adopted and open to signing, ratification and adhesion by General Assembly in resolution 2200 A (XXI), December 16th, 1966. Validated March 23rd, 1976, in accordance with article 49.

http://www.unhchr.ch/spanish/html/menu3/b/a_ccpr_sp.htm

PIDESC

United Nations General Assembly.

International Agreement on Economical, Social and Cultural Rights, 1966.

Adopted and open to signing, ratification and adhesion by General Assembly in resolution 2200 A (XXI), December 16th, 1966. Validated January 3rd, 1976, in accordance with article 27.

http://www.unhchr.ch/spanish/html/menu3/b/a_cescr_sp.htm

DUPCTP

United Nations General Assembly.

Declaration on the use of scientific and technological progress in the interest of peace and for the benefit of humanity, 1975.

Resolution 3384, November 10th, 1975. 10

http://www.unhchr.ch/spanish/html/menu3/b/70_sp.htm

ONU:DDD-86

United Nations General Assembly.

Declaration on the right for developing, 1986.

Resolution 41/128, December 4th, 1986.

http://www.unhchr.ch/spanish/html/menu3/b/74_sp.htm

Venezuela:DSL-04

Government of Venezuela.

Decree on the use of Free Software in Public Administration, 3390, 2004.

http://www.sapi.gov.ve/web/index.php?option=com_content&task=view&id=67&Itemid=40

ISC:SW

Initiative for Software Choice. Website.

http://www.softwarechoice.org/,

http://www.softwarechoice.org/download_files/CPR.Comments.pdf

http://www.softwarechoice.org/download_files/GovernmentProcurementProtocolsSpanish.pdf

Gates:ESA

Bill Gates.

They'll get sort of addicted, Bill Gates, addiction and illegal distribution in China, August 1998.

http://www.softwarelivre.org/news/2549

http://www.softwarelivre.org/news/2557

http://64.233.161.104/search?q=cache:http://archives.cnn.com/2000/TECH/computing/02/23/microsoft.china.idg/

Gutierrez:EMT

Claudio Gutiérrez.

Ethics and Morals: Theories and Principles.

http://www.claudiogutierrez.com/Introduccion_a_la_etica.html

Hipatia:SW

Hipatia.

Website.

http://www.hipatia.info

http://en.wikipedia.org/wiki/Hipatia

Hipatia:SM-04

Hipatia.

Second manifesto, 2004.

http://www.hipatia.info/index.php?id=manifesto2_es

Lanier:PF-99

Jaron Lanier.

Piracy is your friend, 1999.

http://www.maui.net/~zen_gtr/zgzinepg4.html

Microsoft:ASA-2004

Microsoft.

Microsoft accuses Sergio Amadeu of defamation, 2004.

http://portal.softwarelivre.org/news/2607

http://www.softwarelivre.org/news/2479

Odum:AES-80

H. T. Odum.
Environment, Energy and Society.
Blume, 1980.
ISBN 84-7031-237-5 .

GAUEE:SW

Group for advising the European Union on ethical aspects of science and technology.

Website.

http://europa.eu.int/comm/european_group_ethics/index_en.htm

R2000SPPDH

Sub-Commission on the Promotion and Protection of Human Rights of the United Nations' High Commissioner for Human Rights.

Intellectual property rights and human rights. Resolution 2000/7

http://www.unhchr.ch/Huridocda/Huridoca.nsf/0/c462b62cf8a07b13c12569700046704e?Opendocument

R2001SPPDH

Sub-Commission on the Promotion and Protection of Human Rights of the United Nations' High Commissioner for Human Rights.

Intellectual property rights and human rights. Resolution 2001/21

http://www.unhchr.ch/Huridocda/Huridoca.nsf/.2.RES.2001.21.En?Opendocument

Romero:OPT-05

Cristiano Romeroand Juliano Basile.

Public Institutions will have to use Free Software, 2005

http://clipping.planejamento.gov.br/Noticias.asp?NOTCod=189996

http://www.softwarelivre.org/news/3882

Rehermann:NMP

C. Rehermann.

Don't protect me.

http://www.henciclopedia.org.uy/autores/Rehermann/ProtecAutores.htm

Saravia:DDS-03

Diego Saravia.

Democracy and Dictatorship in the Information Society.

In Information Technology for all. Dip. Bizkaia; EU; UNO. Bilbao., February 2003

http://weblog.educ.ar/sociedad-informacion/archives/000672.php

http://www.comunicacao.pro.br/setepontos/21/demovsfasc.htm

http://bo.unsa.edu.ar/docacad/softwarelibre/articulos/defasoco/.

Saravia:EI-03

Diego Saravia.

Economics of Ideas/Economics of Software.

Hipatia, Agosto 2003.

http://bo.unsa.edu.ar/docacad/softwarelibre/articulos/ecosoft/

http://www.apesol.org/news/52

Article in Brecha: http://www.brecha.com.uy/hnnoticiaj1.cgi?1758,53,0,0,.

Saravia:GI-04

Diego Saravia.

Governments and the Internet

Hipatia, 2004.

http://bo.unsa.edu.ar/docacad/softwarelibre/articulos/internetg/

Saravia:REC-04

Diego Saravia.

On wealth, scarcity and capital. Towards a measurable science for life, evolution and its dissipating structures. Beyond Economics.

Hipatia, 2004.

http://bo.unsa.edu.ar/docacad/softwarelibre/articulos/economia/

Saravia:GAS-05

Diego Saravia.

Software Acquisition Guide for Governments and Big Organizations.

Hipatia, Marzo 2005.

http://www.hipatia.info/docs/comprasg/

http://bo.unsa.edu.ar/docacad/softwarelibre/articulos/comprasg/

Saravia:NT-05

Diego Saravia.

Technological Neutrality.

Hipatia, 2005.

http://bo.unsa.edu.ar/docacad/softwarelibre/articulos/neutro/

Saravia:OLC-05

Diego Saravia.

Ontologisms in freedom of knowledge.

Hipatia, 2005.

http://bo.unsa.edu.ar/docacad/softwarelibre/articulos/ontologia/.

Saravia:SLA-03

Diego Saravia and Comunidad de Hipatia.

Free Software in Public Administration: Challenges and Opportunities, 2003.

http://bo.unsa.edu.ar/docacad/softwarelibre/articulos/ica

http://www.hipatia.info/docs/dsl.

Saravia:MH-01

Diego Saravia, Juan Carlos Gentile, Gonzales and Mario Tessa.

Hipatia Manifesto, 2001

http://www.hipatia.info/index.php?id=manifesto_es

Solar:SW

SOLAR.

Website.

http://www.solar.org.ar

Solar:SLP

SOLAR.

Free Software form Politics and Religion

http://ourproject.org/cgi-bin/moin.cgi/Software_20Libre_20y_20Pol_edtica

Solar:P

SOLAR.

Solar Principles, 2004.

http://www.solar.org.ar/article.php3?id_article=173

Varios:Art

Varios.

Article Collection, 2003.

http://bo.unsa.edu.ar/docacad/softwarelibre/articulos/

http://docs.hipatia.info.

THE CASE OF FREE SOFTWARE IN MEXICO: BLOSSOMING FROM THE STONES

José Luis Chiquete

It is remarkable to notice the progress achieved by the Free Software movement in Mexico within only a few months since the research of the present study were concluded. Nevertheless, this isn't actually surprising. Even with Mexico being a country where licensed software use represents the general trend, the movements and "the community" have become not only accepted as an integral part of the Information and Communication Technologies Industry (ICT), but allowed an open egalitarian competition.

As it is well stated in the main document for this research, it is impossible to generalize on the reality of Free Software in each country of Latin America and the Caribbean. The Mexican case is very different to those in other latitudes and the way of facing such reality has opened sources that could even seem strange, considering the disruptive nature of the ideas and technologies emanated from the freedom of knowledge concept.

THE MEXICAN BACKGROUND

The great setback in the Mexican ICT sector

Mexican economy has been acutely setback regarding technology and infrastructure, which is undermining the socio-economical viability of a country that is strongly dependent of a dwindling industry that's based in hydrocarbon extraction and remits from abroad. The weak competitiveness of Mexican economy has already altered many production segments in the country, which already demand a better management of public resources that should be destined to renewing national infrastructure and also force said segments to renew themselves or perish to global competitors. It is expectable that both the Governments and the Mexican Productive Segments are already considering ICT's as a vital element for achieving this wish for renovation.

The Mexican ICT market is huge, amidst the local ICT industry limiting itself to being a distribution mechanism for licensed technologies, mostly foreign. Nevertheless, the present market represents only a small fraction of the real potential market, considering the great existing technological needs.

The new transparency culture and access to information

Due mainly to democratic changes that have been taking place during the present decade, great efforts have been carried out to make Federal Public Administration more transparent, to the degree of having today a Federal Law of Transparency and Access to Public Information LFTA[1]

1 FTAI Published in the Federations Official Diary on June 11th 2002. http://www.ifai.org.mx/transparencia/LFTAIPG.pdf

and the Federal Institute of Access to Information has been created, which is defined by law as follows:

"Article 33.The Federal Institute of Access to Information is an organism of the Federal Public Administration, with operating, financial and executive autonomy, in charge of promoting and disseminating the exercising of the right to access information; solving over denials on access to information claims and protecting personal information in hands of dependencies and entities."

Thanks to the FIAI efforts, the transparency in information culture has grown in Mexico, which not only implies the ability of accessing information, but also means facilitating access to this information through electronic means in every entity of the Federal Government.

The matter of information transparency and access has generated forums and discussions on the right to information, which in many cases have derived in discussions on the right to knowledge.

The myth of technological neutrality

The main ICT consumer is the Federal Government, which also imposes the technologies that are to be used to carry out electronic transactions. For this reason, Public Administration's Digital Policies not only affect the Government in itself, but all ICT related activities.

Mexico has participated in multiple international forums on information societies. The most relevant probably being the 3rd Latin American and the Caribbean Ministerial Forum – European Union, where the Declaration of Rio de Janeiro[2] was signed, stating in point 14 textually:

"Insisting on the importance of developing open standards that, in the array of technological neutrality, allow equal access to Free Software, Open Source Software and Licensed Software. In this context, the efforts are valued for developing projects and experiences that use Free Software and Open Source Software. This work-frame would allow the production and promotion of technologies and contents that serve public interest at all levels, maintaining a high level of system interoperability to increase scale economics in public domain benefiting mostly developing countries. Consciously taking note of the dialogue on development standards between public and private entities in both regions. Supporting the objectives of this dialogue in all aspects related to infrastructure, services, applications security and interoperability."

2 Website Reference

Unfortunately these kind of declarations have mostly been unacknowledged in Mexican Federal Public Administration, given that during the present administration no unified efforts have been carried out to promote technological neutrality in Federal Public Administration, basically leaving the decision of using platforms or different standards to each organization in the Federal Government which generally apply subjective criteria and even give in to corruption.

The entity in charge of determining Digital Policies in Federal Public Administration is the Electronics and Technology Policies' Unit, which belongs to the Public Duty Secretariat. In spite of the multiple efforts for bridging communication with said unit, carried out by many actors related to Free Software (including great corporations that sympathize with Free Software), the unwillingness in hearing our offers regarding technological neutrality has been total and systematic.

On December 3rd 2005, the agreement with which the Inter-secretarial Commission for the Development of the Electronic Government CIDG is published in the Official Diary of the Federation, where it is defined as follows:

"ARTÍCLE FIRST.- The present agreements has as its objective to permanently create The Inter-secretarial Commission for the Development of the Electronic Government, which intends to promote and consolidate the use and exploitation of information and communication technologies, through the adequate coordination that for this effect is proposed by the Public Function Secretariat, with the branches of the Federal Public Administration and, through the latter, with state dependant entities. Matters related to national security are excluded from this agreement

At the present time several organizations related with Free Software, such as the National Chamber of Transformation Industry (CANACINTRA), Through its ICT sector and AMESOL, are achieving the first attempts in participating as guests (with a say but not a vote) in this Commission.

Piracy, Intellectual Property and Software Patents

Software Piracy

Mexico is a great piracy consumer in all its forms, and software is not the exception. Practically any person or organization in Mexico uses Licensed Software without buying the corresponding license, in such a way that the use of Licensed Software in every sector (including those that cannot cover license fares) has become deeply rooted.

First and foremost, it is important to clarify that it is not in the purpose of this document to call into question the schemes for using licenses, but mainly to reflect the judicial and social reality that occurs everyday; taking into account that the interest of the great

majority of people committed to Free Software in Mexico, are people used to following and respecting the law completely, independently from criticism or conviction towards them.

Piracy directly affects Free Software in Mexico, because users that acquire pirate software don't feel compelled by the benefits of Free Software. This type of users have fully utilitarian reasons for using software and have no interest in accessing the code, but in tools that solve their immediate problems that don't require learning processes, without worrying too much about the legality of their actions. Facing this, the challenge for Free Software is to break through the inertia generated by apathy, lack of resources (mainly economic), lack of competitive options and the disrespect towards the present legal code.

Organizations such as the Mexican Management Association for Free Software Enterprises, A.C. (AMESOL) have approached authorities and organizations in several forums dedicated to fighting piracy in software, such as the Business Software Alliance (BSA), and have established a dialogue, that if certainly has found opposing postures in several occasions, it has at least achieved a developing consensus on the need to combat software piracy.

We are convinced that the best way to stop software in software is through educating users on the inconveniences regarding these habits and by offering options not only for regularizing software licenses, but also through totally functional Free Software based options. This vision on fighting piracy not only intends to help those users that don't have the resources or will for acquiring licensed software, but gradually cleans Free Software's reputation of fomenting piracy.

Intellectual Property

All licenses for Free Software and Creative Commons base their strength in ensuring respect for intellectual property, thereby in Mexico efforts have been doubled so that software developers become aware that they are creators and have a right for their original work to be respected, as for the terms in which these works are published. In this sense, Creative Commons MéxicoCC, which has the support and leadership of Fulton & Fulton S.C. Law Firm, have committed to promoting Copyright Culture among creators, artists and developers through events and campaigns that consider spreading these concepts.

Free Software philosophy is already beginning to transcend human knowledge fields beyond ICT's, thereby, most topics dealing with intellectual property and the means for sharing it freely, have gained much space in the minds of the community.

Software Patents

Maybe the toughest topic on software regarding legislation is that of software patents.

In Mexico, the figure of software patent

is still ignored, nevertheless, due to the Free Commerce Treaty signed with the US and Canada, pressure form North American Software Corporations are being felt in relation with homologizing the legal terms on industrial property protection, and for this reason an interest in Mexico adopting this figure.

Previously mentioned pressures haven't yet reached a critical level because ICT development in Mexico is still precarious, so we're still in time to avoid the kind of legal impositions dragged by these patents. The matter is already being discussed and a series of lobbying actions trying to stop the implantation of software patents in Mexico are being carried out. We are making good use of a great amount of arguments presented before the European Parliament to bring down possible initiatives on software patents.

Free Software in Government

As it has already been commented, adoption of Free Software in Mexican Government has not been homogeneous, mainly due to the existent ambiguity between those in charge of dictating digital policies and what they actually do. The latter has allowed some entities to take measures in adopting these kinds of technologies coinciding also with the imposing of open standards, while other entities remain attached to some decision-makers favoring certain brands or licensed products that have impeded this kind of adoption.

There have been very important cases of initiatives in favor of Free Software and some others in favor of ICTs in general that are worth mentioning and acknowledging, as there have been others identified as true threats not only for technological freedom but for freedom of knowledge and public education.

Federal Government

e-México

e-México in the Federal Government's initiative for coordinating the e-government dependency of the Communications and Transports Secretariat. The e-Mexico National System was created during the Government of President Vicente Fox, and has the main objective of coordinating electronic governmental actions in all Government Branches.

Even if e-Mexico has the role of coordinator, ICT resources from States and Municipalities as well as Federal Government Entities are decentralized, so each sector of the government can dispose of said resources autonomously; hence leaving e-Mexico without power to determine general strategies on e-government. Even though the e-Mexico system was greatly publicized, its results have been moderate regarding digital policies and technological influence, even if this coordination made it possible to display a wide coactivity network throughout the Republic, projecting access to communications to the great majority of rural communities through the Digital Community Centers. Unfortunately, said DCC's have introduced licensed software in their installations.

PIS and www.softwarelibre.gob.mx

The Presidency Internet System (PIS), is the organism in charge of revealing electronically all matters related to the Presidency of the Republic and from the first day of the administration it has implemented Free Software based technological solutions, which have not only meant great savings but have generated a strong and secure infrastructure. PIS is a great FS promoter in all government branches.

Precisely on the initiative of the PIS, the softwarelibre.gob.mx portal was created, which since year 2005 aims to inform and give guidance on government free software matters. One of the first synergic results that softwarelibre.gob.mx has achieved is reflected in the recent publication of a free license that adjusts to the governmental legal frame[3G].

PROSOFT

PROSOFT is the Development Program for the Software Industry, a dependency of the Economy Secretariat, and its main objective is to create the necessary elements to promote a strong software industry in Mexico through regulation in founding grants. Since its creation it has maintained a continuous and equitable dialogue with all the actors from the Mexican Software Industry, including AMESOL.

PROSOFT is an active promoter of technological neutrality, open standards and free competition between all actors involved. To date it has managed to group all the Mexican Software Industry and traced the long term objectives for its development.

Advanced Electronic Signature and Digital Revenue Tax Voucher

As it has been commented, ICT use in Mexico is still very basic, reason why the Federal Income and Public Credit Secretariat (SHCP), along with the Economy Secretariat, thought up a way to accelerate ICT's adoption process through economical actors in Mexico.

This is how, during recent years the way has been laid for implementing advanced electronic signature for validating legal digital documents. The first step was to facilitated the Tax Administration System (SAT), so it could receive on-line tax declarations, which in a medium term will be mandatory for all tax payers and which also facilitated the use of digital revenue tax vouchers with the same validity of a paper receipt.

The advanced electronic signature is based on open standards and SAT recommends using Free Software such as Open SSL and Bouncy Castle.FEA

The SAT's electronic tax declaration service is still strongly linked to licensed browsers, but slowly the use of open standards is linked to greater opportunities for Free Software.

CFE and PEMEX

Both greatest Mexican state-dependant structures are linked to the energy industry and both use Free Software intensely. The PEMEX information sub-

G SLG http://www.softwarelibre.gob.mx/licencia/

sidiary uses big Linux based clusters (more than 1000 processors) for seismic analysis PDPEMEX[4]. While the Federal Electricity Commission (CFE) uses free software regularly in many of its operations.

IFE

One of the pioneers in the use of Free Software has been the Electoral Federal Institute, since it used a Linux based structure for the 2000 presidential elections. IFEIB[5M].

States and Municipalities

CIAPEM (SMPAIC)

The State and Municipal Public Administration Informatics Committee brings together a great number of ICTs administrators in several states and municipalities that to a higher or lower level have adopted Free Software. Nonetheless, the voices that account for the benefits of Free Software have increased , to the degree of Free Software being the subject matter for the last CIAPEM Regional Conference in Michoacán. CIAPEM[6M]

GDF y Michoacán

Both the Federal District and the State of Michoacán MICHSL have had a long tradition in the use of Linux and Free Software for most of their activities, achieving extraordinary cost cuts and productivity increase. Even the Federal District Government (GDF) has its own distribution system GDFLI[7N].

Enciclomedia

Not everything is good news when it comes to Free Software in Government. Especially when projects favored by the Federal Executive are not only based in licensed software but also put the educational viability of the country at risk.

"Enciclomedia" *is the digital edition of the Free Public Education Secretariat Textbooks. Its main feature is that it has incorporated diverse didactical resources such as fixed and animated images, interactive media, audio, videos, maps, virtual tours, elements from the Microsoft Encarta Encyclopedia® , among others, into the textbooks and lessons studied year after year by teachers and students all over the country"ENMEDI[8A]*

This project had the objective of installing "interactive boards" in approximately one hundred and one thousand fifth and sixth grade-school level classrooms for April 2006, to project didactical contents in Encarta formats.

The Enciclomedia Project required an investment of around de US$90 million in 2004, and has engaged an approximate of US $1,800 million investment

4 DPEMEX http://www.politicadigital.com.mx/IMG/pdf/Pdf_9.pdf

M FEIBM ftp://ftp.pc.ibm.com/pub/pccwww/ww/techconnect/mexico.pdf

M IAPEMM http://ciapem2005.michoacan.gob.mx/ciapem2005/index.jsp

N DFLIN http://www.softwarelibre.tlalpan.gob.mx/

A NMEDIA http://www.enciclomedia.edu.mx/Conoce_Enciclomedia/Que_es/index.html

from 2005 to 2010.EMEDIA[9]

In addition to a series of irregularities that have been occurring in Enciclomedia related bids, the content presented in the classrooms cannot be published because it is in Encarta format, which is copyrighted.

The implications of allowing public education to depend on restricted contents that cannot be consulted unless a license is paid are aberrant.

Free Software in PyMEs (small and medium size enterprises)

Doing business with Free Software in Mexico is a hard chore, considering that piracy represents the most significant competition.

More than 80% of Mexican businesses are PyMEs, with limited technological and economical resources, which in most cases can not spare acquiring software licenses. Most of these businesses face the apparent contradiction of dealing with technological holdups or using licensed software illegally. In spite of piracy representing an option for avoiding technological holdups, the exploitation of this technology is still precarious, restricting itself to a basic use of ofimatic programs and the Internet through e-mail.

Technological knowledge in PyMEs is not a result of tutorials and formal education, but of direct experience, hence the first contact with technological tools leaves a deep mark in the user, which in most cases becomes frustrating and even intimidating. The reluctance to experiment with new options is expectably high when the first learning experience hasn't even been close to pleasant.

Our mission as Free Software promoters is to provide these users with tools that make it easier for them to move from one platform to another without shock, reason for which we have decided to focus our efforts in the migration of applications before migrating to a completely new operative system, having Firefox and OpenOffice.org that run on licensed platforms, as the ideal applications to introduce these new users into the Free Software world.

Free Software in Corporations

Free Software, and mainly Linux, is being adopted quickly by some sectors such as telecommunications and finance, where the implantation of Free Software based technologies and Linux are not only acknowledged, but recommended and supported in a corporative level. Nevertheless, in some sectors such as construction and transformation, said adoptions take place more slowly, due to the lack of specialized tools. In general, corporative markets are already receptive towards Free Software based solutions, as long as the minimum requirements for service and support are covered.

9 MEDIA2 http://milenio.com/mexico/milenio/nota.asp?id=73292

Free Software as an economical detonator

As it was previously mentioned, Mexican economy lacks a modern technological infrastructure and to make it worse, the little existent technological infrastructure does not fulfill the particular needs of complete productive sectors.

It is there where Free Software sees a lot of opportunities for adoption, as long as said adoption is paired with an adequate assimilation; meaning, that where there is technological availability, such availability should be modified in order to cover the particularities of every productive sector or geographic region.

In this sense, Free Software only represents a hope for technological sovereignty until there is a real appropriation commitment from behalf of all the economic actors.

Free Software Businesses

Curiously, even when one could apparently think that the demand for Free Software in Mexico is small, it has to be accounted that in comparison to other economies in the region, the Mexican market is a huge one and professional Free Software based products and services' offer is still very small.

In a country where deciding on the best option is left to the market, the notion that Free Software is good because it is cheap, stops making sense in a medium term. In a medium term, Free Software is good because it works.

The great majority of companies looking to implement Free Software into their businesses are initially hooked by the immediate cost cut facts regarding licenses; but if these initial implantations are successful; these companies are willing to pay for technology that solvent their needs. This is how a virtuous circle of technological appropriation begins.

The point resides precisely in achieving these implantations successfully and then offering services that satisfy clients not only by working, but by accomplishing formal standards for each industry. This seems easy, but the big problem with Free Software based businesses does not reside in the amount of demand but in the quality offered.

In Mexico, university and technological school graduates do not meet the industry's expectations and have not been formed in the array of an entrepreneurial innovative culture. Given that the offer is still so small and the markets are already beginning to grow, it is imperative to renew technological education independently from the preferred kind of software, so there can be a considerable group of innovative enterprising people willing to change the paradigm regarding technology and knowledge in general and Free Software in particular.

Evolution of the Mexican Free Software "Community"

More than a decade has gone by already since the first hackers form UNAM (Monterrey Autonomous University) started the Free Software movement in Mexico. Everyday, indicators point out with more insistence that Free Software and forums are beginning to be saturated with people willing to know more about it.

That indefinable unit known as Mexican Free Software "Community" faces a key moment. It is about to acknowledge that times have changed even though ideals remain the same. It is time to accept that many of the newbies are not looking for philosophies but for solutions and that there is still a lot of space for dreaming of changing the world. The "Community" is finally maturing and defining itself.

The "Community" faces the new challenge of being the bridge between old-school revolutionaries and pragmatists searching the benefits of technological freedom. We still don't know for sure if the "Community" will survive these changes, but it is definitely a great moment to be a part of it.